APPENDIX A

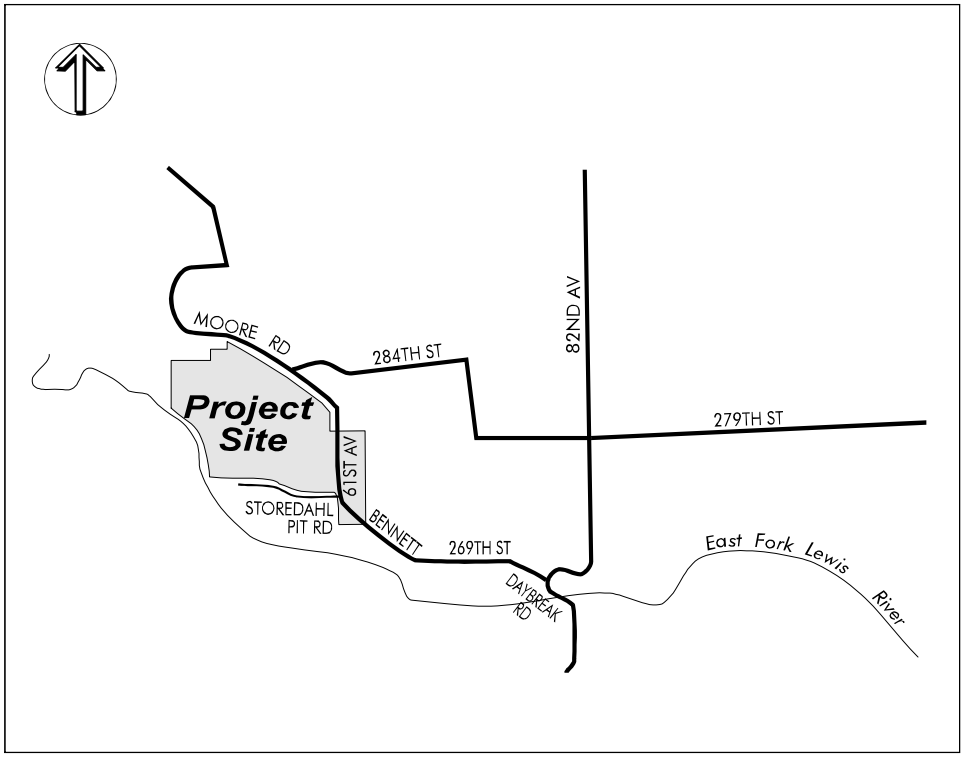
Daybreak Mine: Transportation Impact Study

Daybreak Mine

Transportation Impact Study

Prepared for

Clark County



Prepared by

DKS Associates

August 1998

DKS Associates

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August 21, 1998

Richard Gamble, Clark County Public Works
1300 Ester
Vancouver, WA 98666-9810

Subject: Daybreak Mine Transportation Impact Study P98201x0

Dear Richard:

Attached is the revised transportation impact study for the Daybreak Mine expansion in Clark County. I have included the information you requested per the Transportation Impact Study Technical Complete Checklist dated 8/14/98. Information added to this report includes:

- ADT at study intersections (see appendix)
- Accident rates and calculations (see report section and appendix)
- Trip Generation data and calculations (see appendix)
- Future (1999) Base traffic volumes (see Figure 7)
- Future (1999) Base LOS (see Table 4)

Please call me if you have any questions.

Sincerely,

***DKS** Associates*
A Corporation

Brian K. Copeland, P.E.
Transportation Engineer

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1. Summary

J.L. Storedahl & Sons is proposing to expand their existing Daybreak Mine in eastern Clark County. The Daybreak Mine is located just west of 61st Avenue and Bennett Road on the north side of the East Fork Lewis River (Figure 1). Access to the Daybreak Mine would continue to be off Bennett Road/61st Avenue as it is today. This report evaluates the traffic and transportation impacts for the proposed Daybreak Mine expansion.

Existing Conditions

Based on the Clark County Transportation Impact Study Procedures, the following intersections were selected for focused analysis in this report:

- NE JA Moore Road/NE 284th Street
- NE 61st Avenue/Bennet Road/Site Access
- NE Hyatt Road/NE Daybreak Road
- NE 82nd Avenue /NE 279th Street

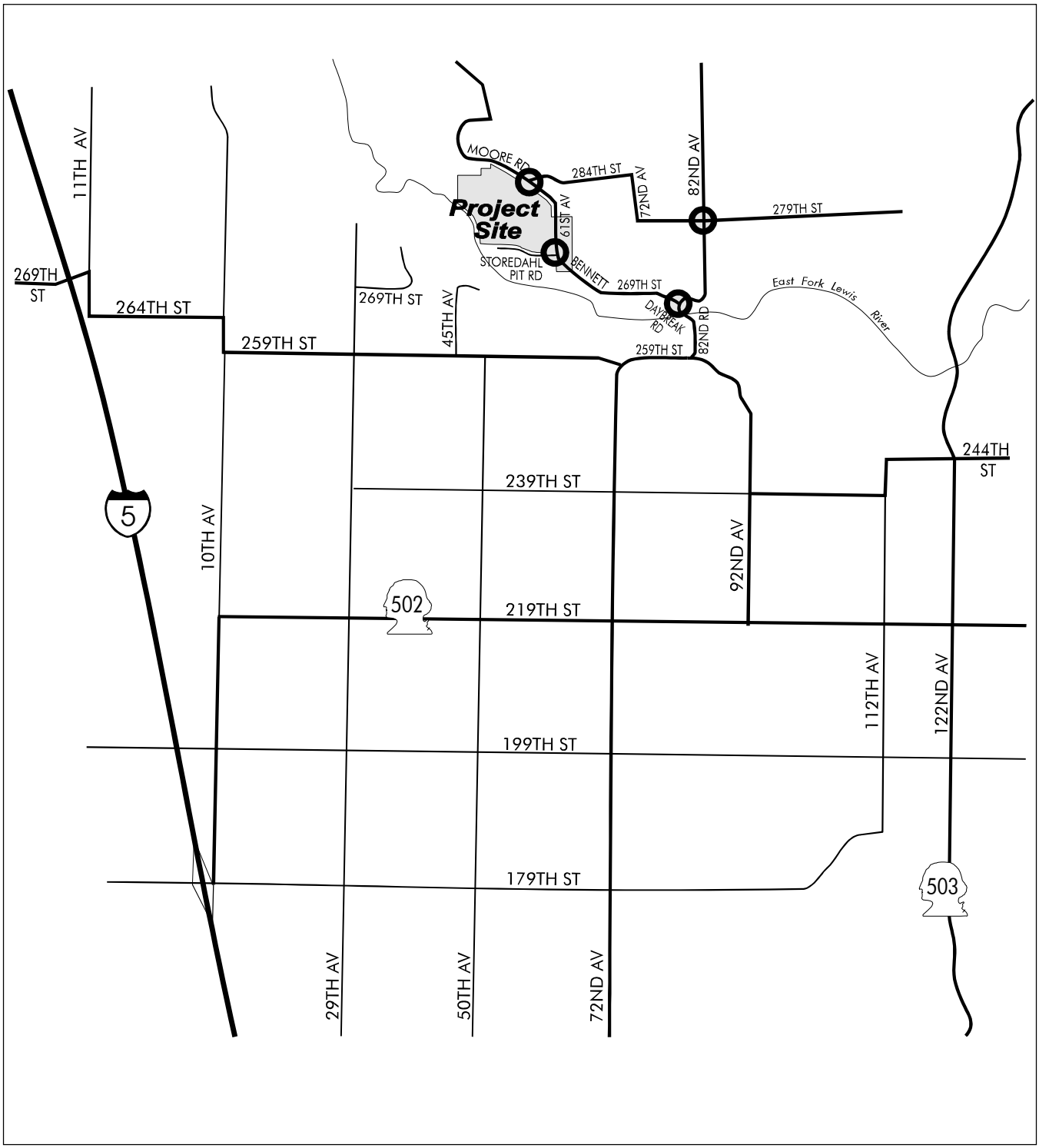
All four unsignalized study intersections operate at acceptable level of service (LOS C or better) during both the AM and PM peak periods.

Accident rates at all four study intersections for the five year period are less than 1.0 accidents per million vehicles entering the intersection.

Impacts

Presently, about 4,000 tons of rock per day are currently exported from Daybreak Mine during peak operations[1]. Approximately 5,000 tons per day are currently imported from the Tebo Pit southwest of the Daybreak site during peak operations. No mining is currently being conducted at the Daybreak site. The majority of imports and exports are hauled in 30-ton trucks. The exception to this is that cash sales, which represent about 15 percent of exports, are hauled in various smaller trucks. The average load for a cash sale is approximately eight tons. The projected export volume is approximately 8,000 tons of rock per day during peak operations.

[1] Information provided to DKS in a letter from Skip Urling, Ecological Landscape Services, Inc. on 7/21/98.



LEGEND

O - Study Intersection

Figure 1
STUDY AREA

The projected volume of material imported into the site for processing will drop to about 2,500 percent.

Daybreak plans to mine approximately 4,000 tons of rock per day during peak operations and transfer this rock to the processing area by use of an on-site conveyor system. This alternative will be referred to as Alternative 1 in this report. Although using this conveyor system is the preferred plan, an alternative to this would be to transfer the 4,000 tons of rock per day along NE 61st Avenue/Bevin Road via a series of existing driveways north of the main site access. This alternative will be referred to as Alternative 2 in this report. Although three access points would be needed for Alternative 2, only one would be utilized at a time. No change in on-site employment is planned for either alternative.

Cash sales would continue to comprise approximately 15 percent of export volume. If the conveyor system is not used (Alternative 2), cash sales would be restricted until after 9:00 am to reduce vehicle trips generated during the morning peak hour.

For Alternative 1, the proposed Daybreak Mine operation is expected to generate about 23 additional vehicle trips during the AM peak hour and about 12 vehicle trips during the PM peak hour. For Alternative 2, the proposed Daybreak Mine operation is expected to generate about 28 additional vehicle trips during the AM peak hour and about 30 vehicle trips during the PM peak hour. These numbers are based on the busiest time of the year and, therefore, represent a peak estimate of trip generation.

All four study intersections would operate at acceptable levels of service (LOS C or better) for both alternatives under both Existing (1998) Plus Project and Future (1999) Plus Project scenarios.

For Alternative 1, sight distance (both directions) at the access point more than meets the required 500 feet minimum. Figures showing sight distance requirements for both Alternatives 1 and 2 are shown in the appendix of this report.

Mitigation

In general, there are few traffic impacts created by the proposed project. Measures which can be undertaken to reduce the potential concerns regarding truck traffic would include the following:

- Improved street lighting at site driveways to improve nighttime visibility in winter conditions.
- Work with school districts to identify school bus stop areas for children and provide widened shoulder areas (where needed or not already provided) on key routes in the study area.

2. Existing Conditions

This section summarizes the existing transportation conditions in the vicinity of the proposed project, including roadway geometries, traffic volumes, vehicle speeds, and pedestrian, bicycle and transit facilities. Existing operating conditions of roadways and key intersections in the study area are also discussed.

Based on the Clark County traffic studies scoping[2] letter for this project, the following four intersections were selected for focused analysis in this report:

- NE JA Moore Road/NE 284th Street
- NE 61st Avenue/Bennet Road/Site Access
- NE Hyatt Road/NE Daybreak Road
- NE 82nd Avenue/NE 279th Street

EXISTING NETWORK DESCRIPTION

Regional access to the project site would be provided via I-5 and I-205. Main access to the Daybreak Pit would be provided off Bennett Road/61st Avenue. Three additional access points will be provided north of this primary access point for purposes of transferring mined aggregate to the processing facility. The following sections describe the key arterial routes and freeways which would serve the proposed project.

NE Daybreak Road/NE 82nd Avenue (south of Hyatt Road) is a two-lane, north-south roadway identified as a Major Rural Collector by Clark County. This road is about 24 feet wide and provides a connection between 269th Street and 72nd Avenue. The posted speed along 82nd Avenue is 25 mph between 72nd Avenue and 269th Street. No bike lanes or sidewalks are provided along the roadway.

NE 269th Street/NE Bennett Road/NE 61st Avenue/NE Bevin Road/NE Moore Road is a two-lane, east-west road designated a Major Rural Collector by Clark County. In the vicinity of the existing Daybreak Pit, 269th Street becomes Bennett Road east of the pit's access road and west of the

[2] Based on traffic studies scoping letter from Richard Gamble of Clark County dated May 26, 1998.

Daybreak Park. At the pit's access road, Bennett Road then becomes 61st Avenue running north-south. 61st Avenue then turns into Bevin Road, which turns into Moore Road at 284th Street. This roadway is 22-24 feet wide and provides the only direct connection between the Daybreak Mine site and 72nd Avenue and State Route 502. The posted speed along this road is 40 miles per hour for trucks (along 269th Avenue), with a posted speed of 35 miles per hour at various curves along the roadway. No bike lanes or sidewalks are provided along the roadway. Several school bus stops are located along this roadway. 269th Avenue is controlled by a stop sign at Hyatt Road. (The only traffic expected to go north on 61st Avenue from the pit are trips between Storedahl's operation in Woodland, Washington and the Daybreak Pit. The level of activity between these two facilities would be the same as it is today (without crushing activity at Daybreak).)

NE Hyatt Road is a two-lane roadway connecting NE Daybreak Road with NE 82nd Avenue. It is classified as a Major Rural Collector by Clark County. The roadway is approximately 22 feet wide, with no bike lanes or sidewalks. The posted speed along Hyatt Road is 25 miles per hour for trucks due to curves and steep grades. A school bus stop is located along Hyatt Road.

NE 82nd Avenue (north of Hyatt Road) is a two-lane roadway classified as a Major Rural Collector by Clark County. The roadway is approximately 22 feet wide, with no bike lanes or sidewalks. Sharp curves in the roadway are posted at 20 miles per hour.

NE 284th Street is a two-lane roadway classified as a Major Rural Collector by Clark County. The roadway is approximately 20 feet wide with no bike lanes or sidewalks. 284th Street is controlled by a stop sign at Moore Road. The posted speed is 20 miles per hour due to curves ans steep grades.

NE 279th Street is a two-lane roadway classified as a Major Rural Collector by Clark County. The roadway is approximately 20 feet wide with no bike lanes or sidewalks. It is controlled by a stop sign at 82nd Avenue. The posted speed along 279th Avenue is 35 miles per hour west of 82nd Avenue.

INTERSECTION CAPACITY

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of *level of service* has been developed to subjectively describe traffic performance.

Level of service categories are similar to report card ratings for traffic performance. Intersections are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C generally indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of service D and E indicate progressively worse peak hour operating conditions and level of service F conditions occur when demand exceeds the capacity of an intersection. Most urban communities set level of service D as the minimum acceptable level of service for peak hour operation and plan for level of service C or better for all other times of the day. The minimum acceptable level of service for rural areas of Clark County is LOS C.[3] Level of service descriptions for unsignalized intersections are provided in the appendix of this report.

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The *1994 Highway Capacity Manual* describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Intersection turn movement counts were conducted at the four study intersections during the morning (7:00-9:00 AM) and evening (4:00-6:00 PM) peak periods to determine existing LOS based on the *1994 Highway Capacity Manual* methodology for signalized and unsignalized intersections[4].

Traffic counts were conducted from June 29 to July 1, 1998. Figure 2 provides a summary of the existing traffic volumes. The results of the intersection analysis are shown in Table 1. All four study intersections are currently unsignalized. As shown in Table 1, all study intersections operate at acceptable level of service (LOS C or better) during both the AM and PM peak periods.

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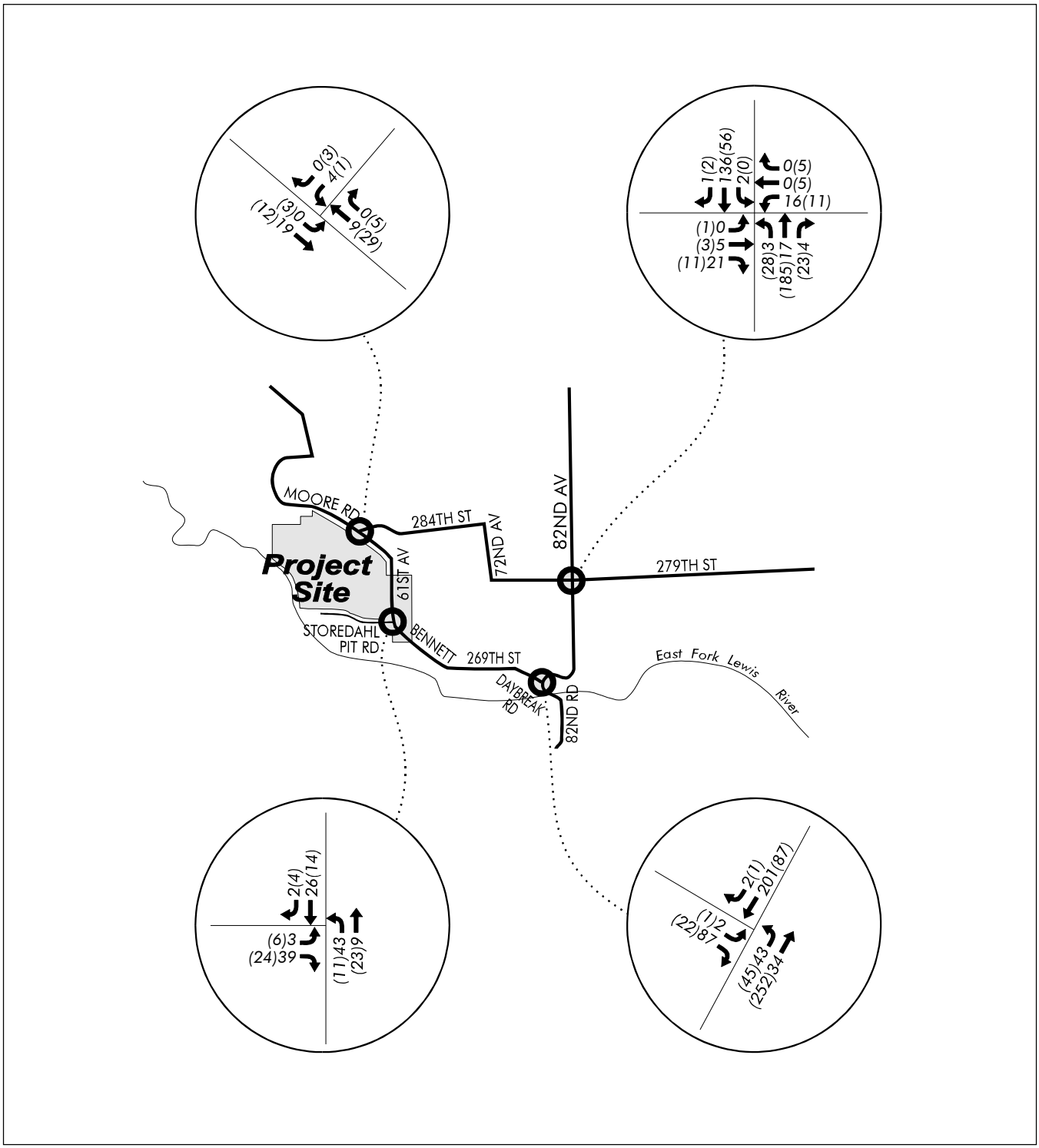
[3] Based on discussion with Clark County staff on March 27, 1996.

[4] - *Highway Capacity Manual, Special Report 209*, Transportation Research Board, Chapter 10, 1994.



LEGEND

O - Study Intersection

AM(PM) - Peak Hour Traffic Volumes

Figure 2
EXISTING PEAK HOUR TRAFFIC VOLUMES

Table 1
Existing (1998) Intersection Operation

	AM Peak Hour		PM Peak Hour	
Intersection	Delay	LOS	Delay	LOS
NE JA Moore Road/NE 284th Street	0.4	**A/A**	0.3	**A/A**
Bennet Road/61st Avenue/Site Access	2.0	**A/A**	1.5	**A/A**
NE Hyatt Road/NE Daybreak Road	1.5	**A/A**	0.6	**A/A**
NE 61st Avenue/NE 82nd Avenue	0.9	**A/A**	0.7	**A/B**

Unsignalized Intersection LOS:
A/A = Major street left turn LOS/minor street left turn LOS
Delay = Average vehicle delay in peak hour for entire intersection

BENNETT ROAD SPEED SURVEY

A 24-hour speed survey was conducted along Bennett Road just south of the main Daybreak Mine access (Storedahl Pit Road). The 85th percentile speed was 51 miles per hour in the northbound direction and 48 miles per hour in the southbound direction. By definition, 15 percent of the vehicles surveyed were traveling faster than the 85th percentile speed and 85 percent of the vehicles surveyed were traveling slower than the 85th percentile speed.

ACCIDENT HISTORY

Based on accident data provided by Clark County, four accidents occurred within the study area during the five year period from 1992 through 1996[5]. Three of these accidents occurred at or near the intersection of NE 82nd Avenue/NE 279th street. The other accident occurred at the intersection of NE JA Moore Road and NE 284th Street. No fatalities were reported. Accident rates at all four study intersections for the five year period are less than 1.0 accidents per million vehicles entering the intersection. Accident rate calculations are shown in the appendix.

[5] Based on fax from Huan Vuu, Clark County Public Works, on 7/2/98.

PEDESTRIAN/BICYCLE

During both the morning and evening peak periods, there were very few pedestrians observed in the vicinity of the project site. The only noticeable pedestrian activity observed along key routes is related to school children waiting for buses in the morning and returning in the afternoon. No pedestrian or bicycle facilities are provided along any of the study area roadways.

TRANSIT/BUS

The Battle Ground School District has two bus routes which pick up and drop off students along 269th Avenue near the proposed project site[6]. Bus #12 serves Lewisville Middle School and Battle Ground High School and bus #21 serves Chief Umtuch and Captain Strong primary schools. Both these bus routes travel along 269th Street/Bennet Road/61st Avenue, 284th Avenue, and 279th Avenue in the study area. Bus # 12 also travels along 82nd Avenue north of Daybreak Road. The school district is currently modifying its routes, but the new routes were not available at the time of this study.

The La Center School District has one bus route in the vicinity of the project[7]. This route runs along 284th Street and 61st Avenue north of the Daybreak site, and along Bennet Road and 269th Street south of the Daybreak site. A bus turnaround is located along 269th Street at about 69th Avenue.

[6] Based on discussion with Brenda Lester of Battle Ground Public Schools on 7/21/98.

[7] Based on fax from Gladys Doriot, KWRL Transportation Co-op dated 7/14/98.

3. Impacts

This chapter reviews the impacts of the proposed Daybreak Mine on the study area transportation system. The analysis includes an assessment of project trip generation and distribution, capacity analysis of study intersections with existing and projected future traffic, sight distances evaluation, and pedestrian/bicycle access consideration.

Presently, about 4,000 tons of rock per day are exported from Daybreak Mine during peak operations (June through November), with approximately 1,500 tons of rock per day exported the remainder of the year[8]. An average of 4,500 tons of rock per day are currently imported from the Tebo Pit southwest of the Daybreak site. During peak operations, this number increases to approximately 5,000 tons per day. No mining is currently being conducted at the Daybreak site. The majority of imports and exports are hauled in 30-ton trucks. The exception to this is that cash sales, which represent about 15 percent of exports, are hauled in various smaller trucks. The average load for a cash sale is approximately eight tons.

Proposed on-site activities include mining, processing, sorting and stockpiling sand and gravel. The projected export volume is approximately 8,000 tons of rock per day during peak operations (June to October), with this number falling to about 3,000 tons/day the remainder of the year. The projected volume of material imported into the site for processing will drop to about 2,500 tons per day. This will reduce the amount of rock imported from the Tebo Pit by about 50 percent.

Daybreak plans to mine approximately 4,000 tons of rock per day during peak operations (average is 2,500 tons/day) and transfer this rock to the processing area by extending an existing on-site conveyor system. This alternative will be referred to as Alternative 1 throughout the remainder of this report. Although use of this conveyor system is the preferred plan, an alternative to this would be to transfer the 4,000 tons of rock per day along NE 61st Avenue/Bevin Road/JA Moore Road via a series of three existing driveways north of the current site access. This alternative will be referred to as Alternative 2 in this report. Although three access points would be needed for Alternative 2, only one would be utilized at a time. Site access will be discussed later in this report. No change in on-site employment is planned for either alternative.

[8] Information provided to DKS in a letter from Skip Urling, Ecological Landscape Services, Inc. on 7/21/98.

Cash sales would continue to comprise approximately 15 percent of export volume. If the conveyor system is not used (Alternative 2), cash sales would be restricted until after 9:00 am to reduce vehicle trips generated during the morning peak hour.

Although the previous discussion includes rock volumes for average and off-season operation levels, the volumes during peak operations are used for analysis in this study to represent a worst-case scenario of vehicle and truck trips. With this in mind, the proposed project would do the following:

- Increase exported volume by about 4,000 tons per day
- Decrease imported volume from the Tebo Pit by about 2,500 tons per day
- Approximately 4,000 tons per day of raw material would be mined and transported to the processing area.

The following three scenarios will be evaluated in this section:

- Existing (1998) Plus Project (Alternatives A and B)
- Future (1999) Base
- Future (1999) Plus Project (Alternatives A and B)

TRIP GENERATION

The trip generation for the proposed Daybreak Pit was determined based on traffic counts[9] conducted at the existing Daybreak Mine site access and information provided by J.L. Storedahl & Sons. The trip generation data used for this analysis represents a typical day during Daybreak's peak operating season. Trip generation data and supporting calculations are included in the appendix.

For Alternative 1, the proposed Daybreak Mine operation is expected to generate about 23 additional vehicle trips during the AM peak hour and about 12 vehicle trips during the PM peak hour. For Alternative 2, the proposed Daybreak Mine operation is expected to generate about 28 additional vehicle trips during the AM peak hour and about 30 vehicle trips during the PM peak hour. These numbers are based on the busiest time of the year and, therefore, represent a peak estimate of trip generation. Trip generation estimates for the Daybreak Pit are shown in Table 2.

Table 2

[9] Traffic counts conducted by DKS Associates, June 30 1998.

Vehicle Trip Generation

	AM Peak Hour	PM Peak Hour
Alternative 1 (conveyor)	12 in/11 out	4 in/8 out
Alternative 2 (no conveyor)	15 in/13 out	11 in/19 out

TRIP DISTRIBUTION/ASSIGNMENT

Trip distribution was based on Clark County existing truck and traffic patterns in the study area, as well as information provided by J.L Storedahl & Sons. Added project vehicle trips are shown in Figure 3 and 4 for the two alternatives, along with the respective distribution percentages. Trips were assigned to the roadway network based on this distribution, and added project traffic was traced from the project site through the study intersections.

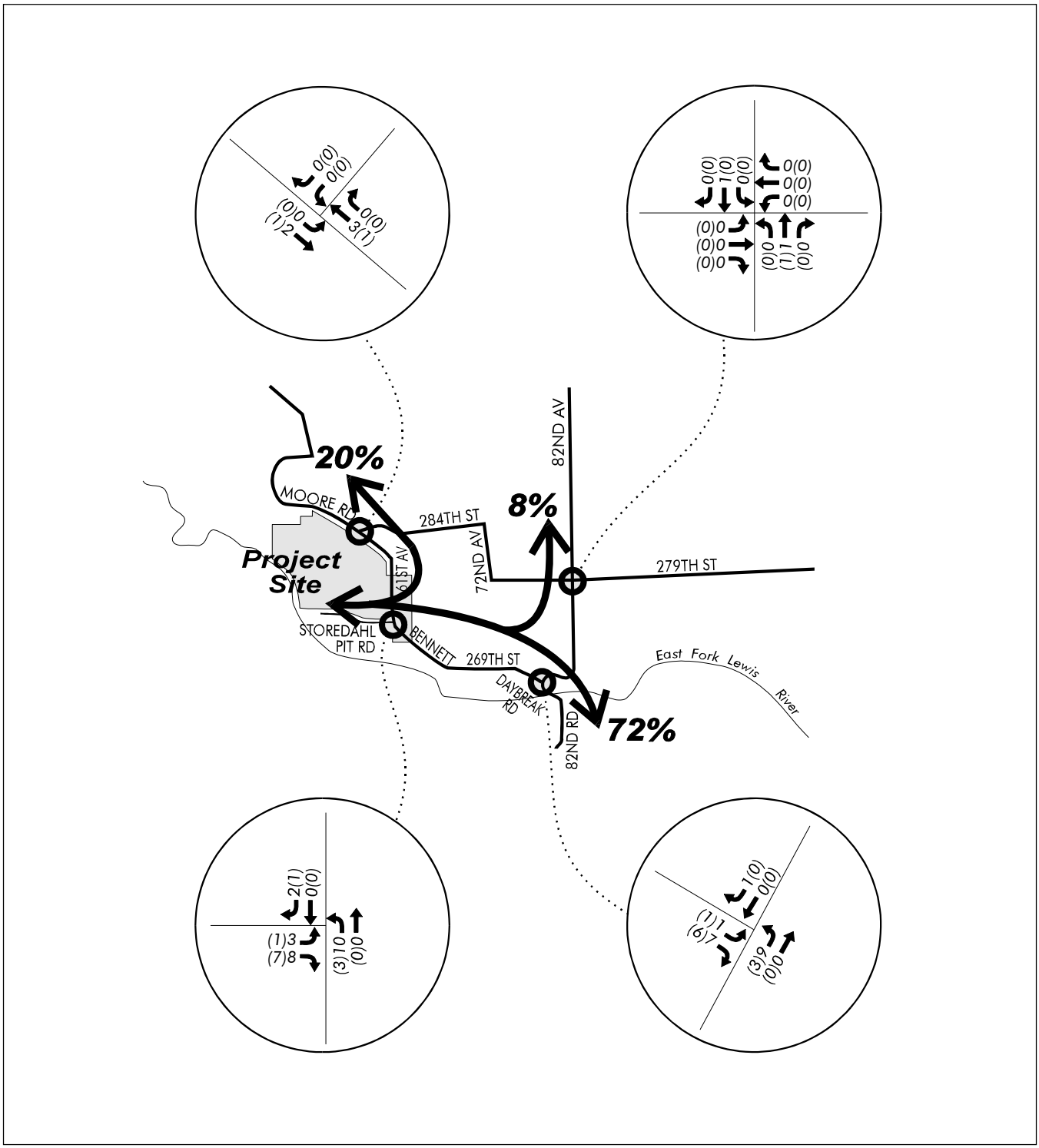
INTERSECTION CAPACITY

The following sections provide results of intersection capacity analysis for the three scenarios listed above. A description of each scenario is also included herein.

Existing (1998) Plus Project

This scenario provides the best indication of project-related impacts on the roadway system without other land use changes. Vehicle trips generated by the project were added to existing (1998) traffic volumes in the study area to arrive at "Existing Plus Project" traffic volumes. Figures 5 and 6 show estimated traffic volumes for this scenario for Alternatives 1 and 2, respectively.

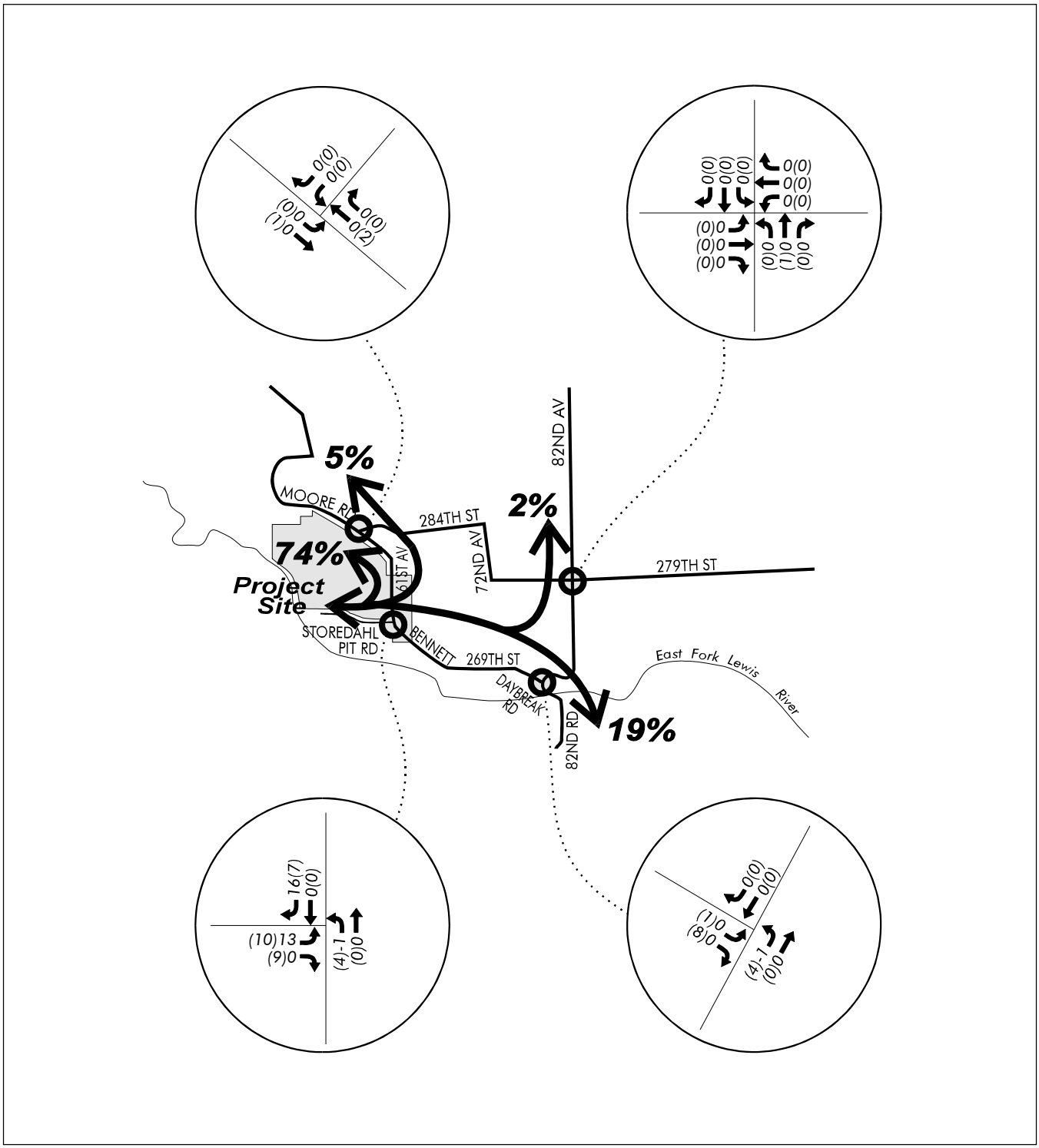
Table 3 shows the resulting levels of service for the four study intersections for this scenario. As the table shows, all four study intersections would operate at acceptable levels (LOS C or better) during both AM and PM peak periods.



LEGEND

- O - Study Intersection
- AM(PM) - Peak Hour Traffic Volumes
- ⇔ - Directional Distribution for Added Vehicle Trips

Figure 3
ADDED PROJECT TRAFFIC
ALTERNATIVE 1 (Conveyor)



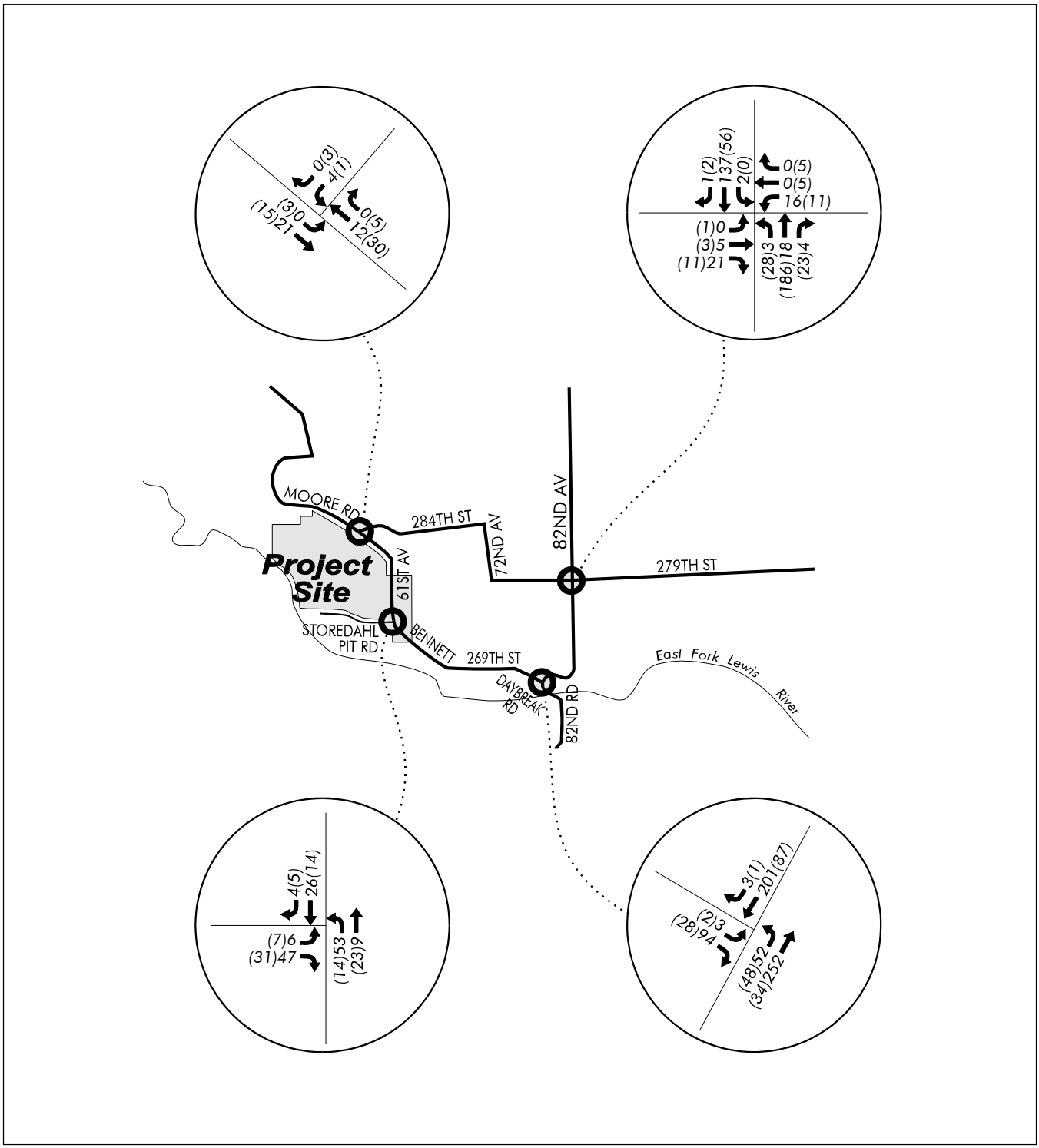
LEGEND

O - Study Intersection

AM(PM) - Peak Hour Traffic Volumes

↔ - Directional Distribution for Added Vehicle Trips

Figure 4
ADDED PROJECT TRAFFIC
ALTERNATIVE 2 (No Conveyor)

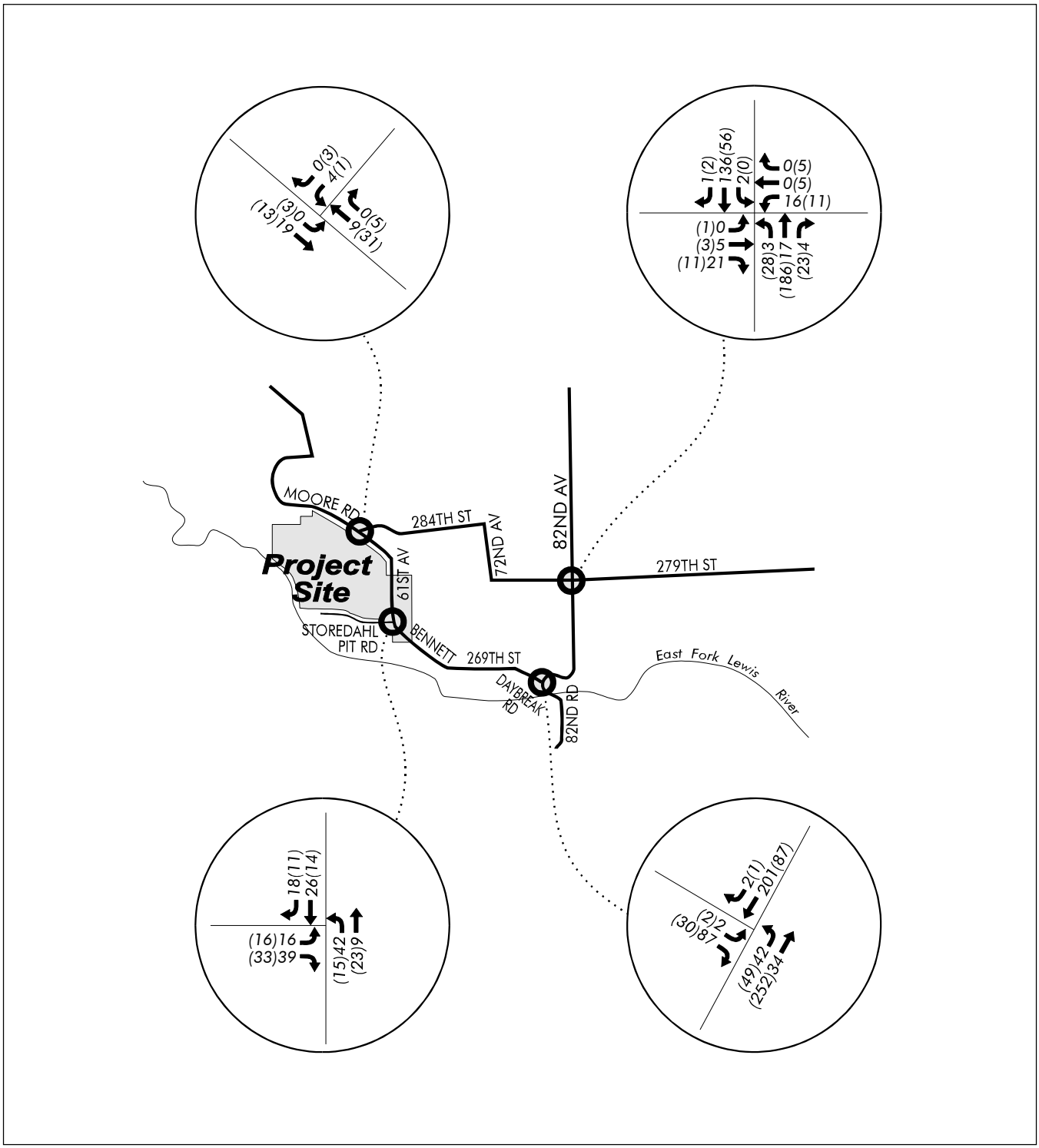


LEGEND

O - Study Intersection

AM(PM) - Peak Hour Traffic Volumes

Figure 5
EXISTING PLUS PROJECT ALTERNATIVE 1 (Conveyor)



LEGEND

O - Study Intersection

AM(PM) - Peak Hour Traffic Volumes

Figure 6
EXISTING PLUS PROJECT
ALTERNATIVE 2 (No Conveyor)

Table 3
Existing (1998) Plus Project Intersection Operation

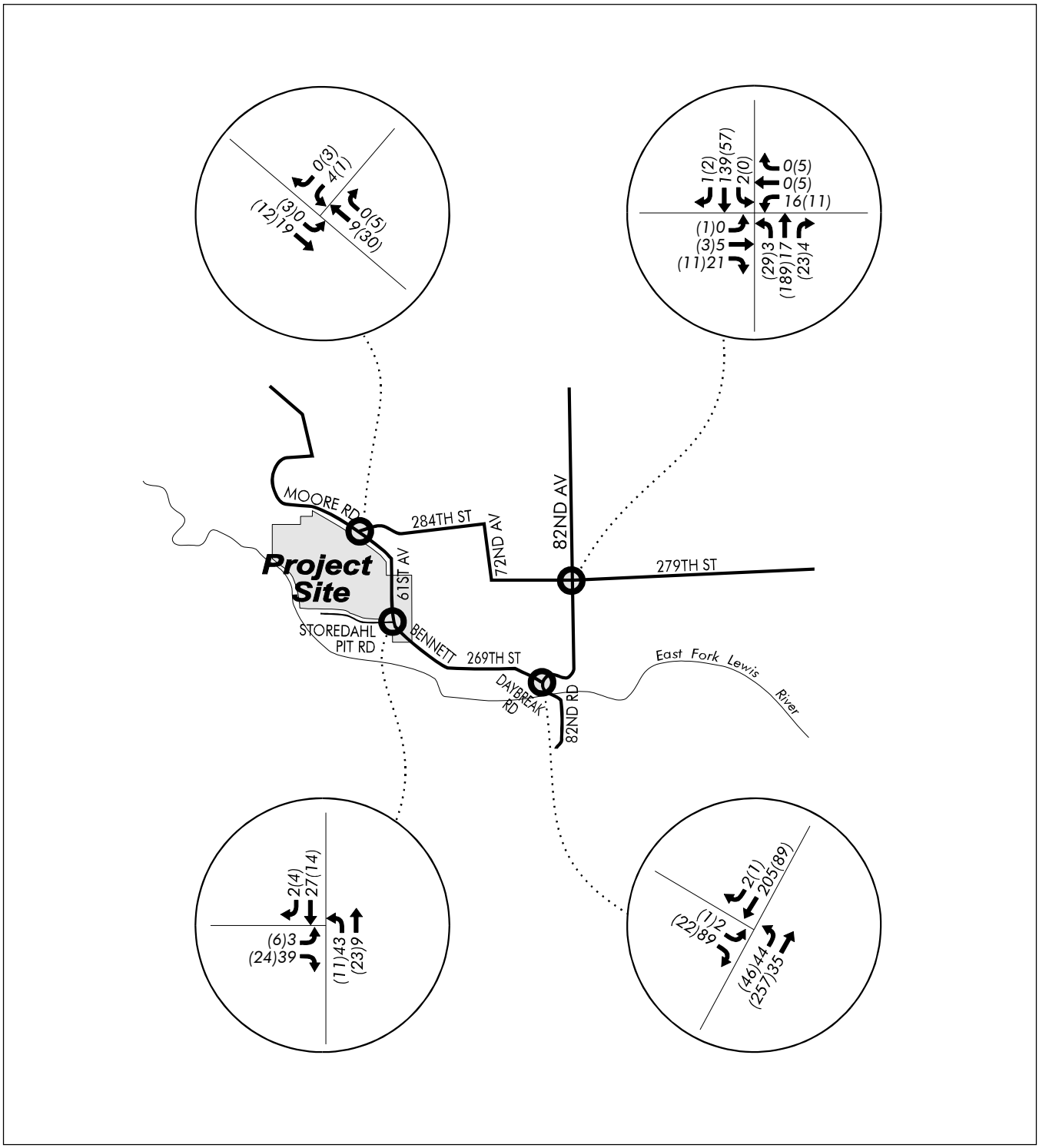
		AM Peak Hour		PM Peak Hour	
	Intersection	Delay	LOS	Delay	LOS
Alternative 1 (conveyor)	NE JA Moore Road/NE 284th Street	0.4	**A/A**	0.3	**A/A**
	Bennet Road/61st Avenue/Site Access	2.1	**A/A**	1.6	**A/A**
	NE Hyatt Road/NE Daybreak Road	1.7	**A/A**	0.6	**A/A**
	NE 82nd Avenue/NE 279th Street	0.9	**A/A**	0.7	**A/B**
Alternative 2 (no conveyor)	NE JA Moore Road/NE 284th Street	0.4	**A/A**	0.3	**A/A**
	Bennet Road/61st Avenue/Site Access	2.0	**A/A**	1.8	**A/A**
	NE Hyatt Road/NE Daybreak Road	1.5	**A/A**	0.6	**A/A**
	NE 82nd Avenue/NE 279th Street	0.9	**A/A**	0.7	**A/B**

Unsignalized Intersection LOS:
A/A = Major street left turn LOS/minor street left turn LOS
Delay = Average vehicle delay in peak hour for entire intersection

Future (1999) Base

For this study, it is assumed that the proposed Daybreak Mine operation would be in effect sometime in the year 1999. To obtain 1999 base traffic volumes, existing (1998) traffic volumes were factored up to represent base conditions one year into the future[10]. The roadway network and geometries were assumed to remain the same as those for the existing case. Future (1999) Base traffic volumes are shown in Figure 7, and resulting intersection levels of service for the four study intersections are shown in Table 4. As shown in Table 4, all four study intersections would operate at acceptable levels (LOS C or better) during both AM and PM peak periods.

[10] Based on a conversation with Richard Gamble of Clark County on 7/6/98, a background growth factor of 2 percent per year was assumed.



LEGEND

O - Study Intersection

AM(PM) - Peak Hour Traffic Volumes

Figure 7
FUTURE (1999) BASE

Table 4
Future (1999) Base Intersection Operation

	AM Peak Hour		PM Peak Hour	
Intersection	Delay	LOS	Delay	LOS
NE JA Moore Road/NE 284th Street	0.4	**A/A**	0.3	**A/A**
Bennet Road/61st Avenue/Site Access	2.0	**A/A**	1.5	**A/A**
NE Hyatt Road/NE Daybreak Road	1.6	**A/A**	0.6	**A/A**
NE 61st Avenue/NE 82nd Avenue	0.9	**A/A**	0.7	**A/B**

Unsignalized Intersection LOS:
A/A = Major street left turn LOS/minor street left turn LOS
Delay = Average vehicle delay in peak hour for entire intersection

Future (1999) Plus Project

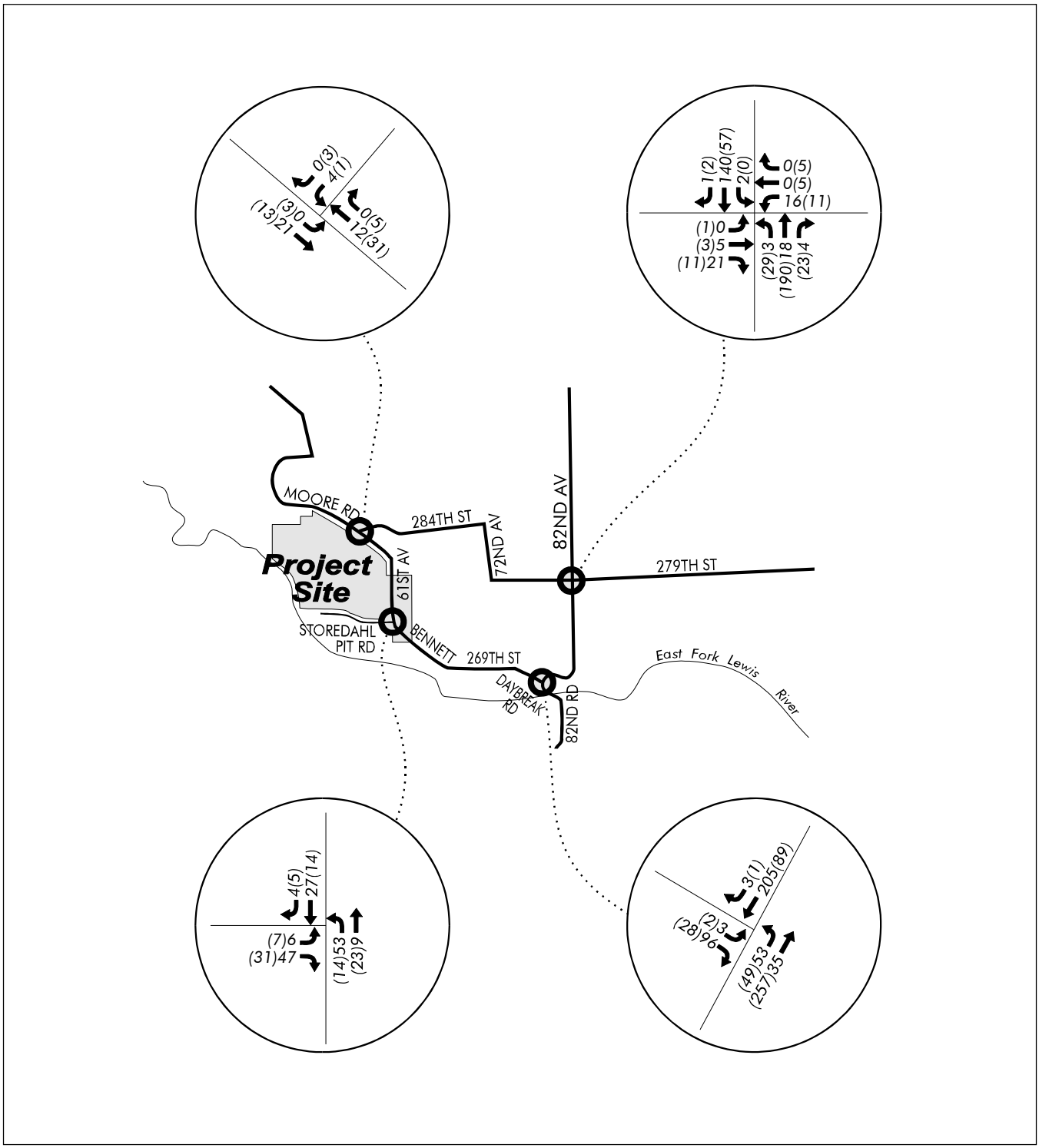
This scenario represents conditions for full project operation. To estimate Future (1999) Plus Project traffic volumes, traffic generated by the project was added to the 1999 base volumes. The roadway network and geometries were assumed to remain the same as those for the existing case. Figures 8 and 9 show the Future (1999) Plus Project traffic volumes for the two alternatives.

Table 5 shows the resulting levels of service for the four study intersections for this scenario. As the table shows, all four study intersections would operate at acceptable levels (LOS C or better) during both AM and PM peak periods.

SIGHT ACCESS/SIGHT DISTANCE

This section evaluates sight distance and stacking for each of the project access points along Bennet Road/61st Avenue. Sight distance evaluation was based on the guidelines set forth by the American Association of State Highway and Transportation Officials (AASHTO). As discussed earlier in this report, the 85th percentile speed along Bennet Road is approximately 50 miles per hour. Based on this speed, a minimum site distance of 500 feet is required along Bennet Road/61st Avenue[11].

[11] *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials, 1990, p. 762, Figure IX-40.

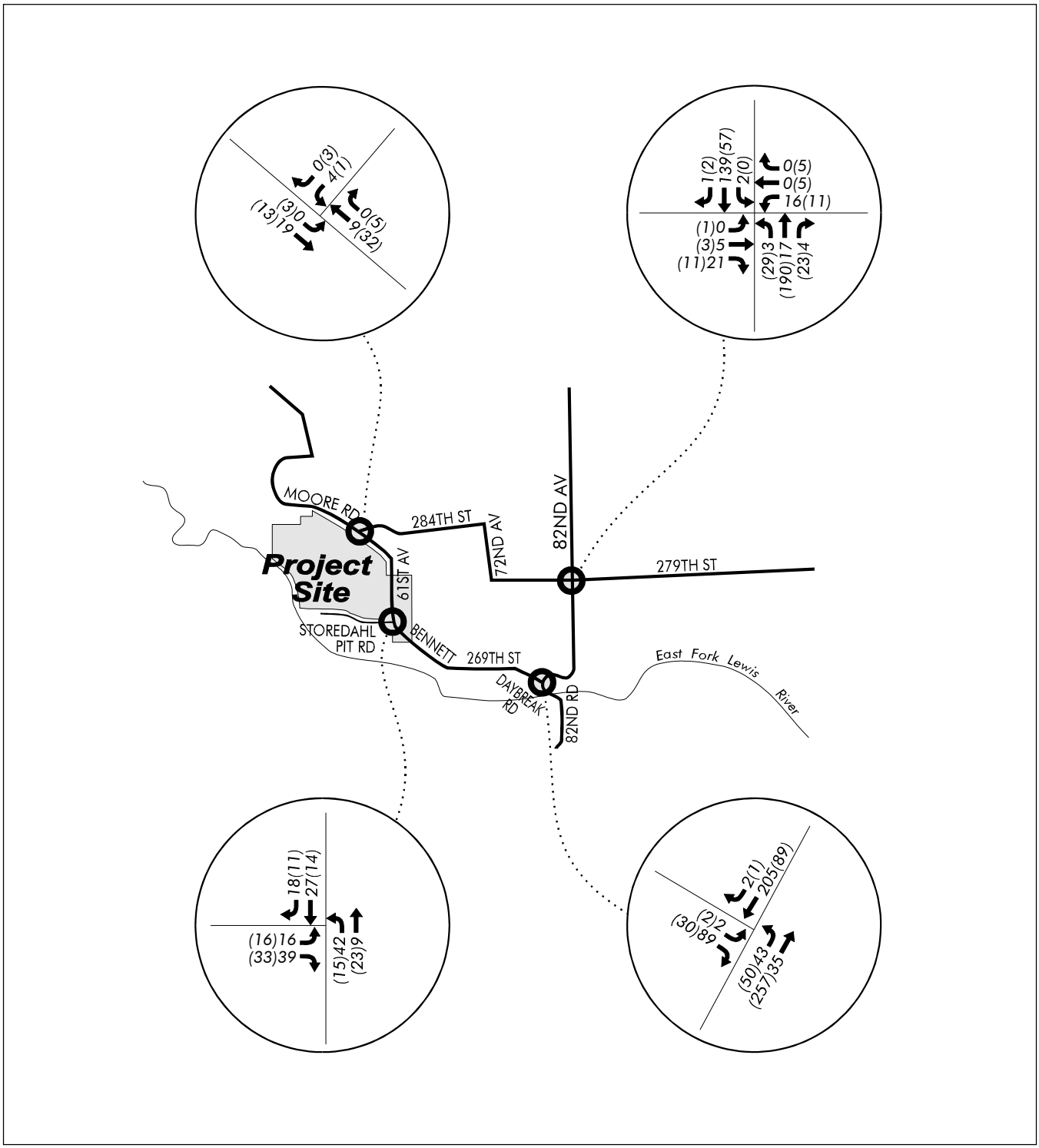


LEGEND

O - Study Intersection

AM(PM) - Peak Hour Traffic Volumes

Figure 8
FUTURE (1999) PLUS PROJECT
ALTERNATIVE 1 (Conveyor)



LEGEND

O - Study Intersection

AM(PM) - Peak Hour Traffic Volumes

Figure 9
FUTURE (1999) PLUS PROJECT
ALTERNATIVE 2 (Conveyor)

Table 5
Future (1999) Plus Project Intersection Operation

		AM Peak Hour		PM Peak Hour	
	Intersection	Delay	LOS	Delay	LOS
Alternative 1 (conveyor)	NE JA Moore Road/NE 284th Street	0.4	**A/A**	0.3	**A/A**
	Bennet Road/61st Avenue/Site Access	2.1	**A/A**	1.6	**A/A**
	NE Hyatt Road/NE Daybreak Road	1.7	**A/A**	0.6	**A/A**
	NE 82nd Avenue/NE 279th Street	0.9	**A/A**	0.7	**A/B**
Alternative 2 (no conveyor)	NE JA Moore Road/NE 284th Street	0.4	**A/A**	0.3	**A/A**
	Bennet Road/61st Avenue/Site Access	2.0	**A/A**	1.8	**A/A**
	NE Hyatt Road/NE Daybreak Road	1.5	**A/A**	0.6	**A/A**
	NE 82nd Avenue/NE 279th Street	0.9	**A/A**	0.7	**A/B**

Unsignalized Intersection LOS:
A/A = Major street left turn LOS/minor street left turn LOS
Delay = Average vehicle delay in peak hour for entire intersection

Alternative 1

For Alternative 1, the only access point to the site would be Storedahl Pit Road (See Figure 1). At this location, sight distance is greater than the 500 feet minimum in both directions.

Based on the estimated number of vehicles entering and exiting the project site, less than one vehicle per minute would exit the project site driveway during the AM peak period. During the PM peak period, about one vehicle would exit the site every one and a half minutes. This would not generate significant queuing for vehicles exiting the project access.

Alternative 2

For this alternative, Storedahl Pit Road would remain the main access point. However, three additional access points would be utilized one at a time in order to truck the mined rock to the processing area. Figures showing the sight distance requirements for the four access points are shown in the appendix

of this report. As shown in the figures, two of these access points would be on the west side of 61st Avenue and one would be on the east side.

As with Alternative 1, the traffic volumes generated by this alternative would not generate significant queuing for vehicles exiting any of the project access points.

WEIGHT LIMITS

The proposed project would generate trips in the form of various vehicle types ranging from small private vehicles to large trucks. The trucks that would service the Daybreak Pit would meet the load requirements called out in WSDOT's "Permits For Oversized Overweight Vehicles"[12].

[12] Washington State Weight Table, section 46.44.041, per discussion with Virgle Barrett of J.L. Storedahl and Sons, March 19, 1996.

4. Mitigation

This section addresses the impacts associated with the proposed project and identifies possible measures to mitigate those impacts. In general, there are few traffic impacts created by the proposed project. Measures which can be undertaken to reduce the potential concerns regarding truck traffic would include the following:

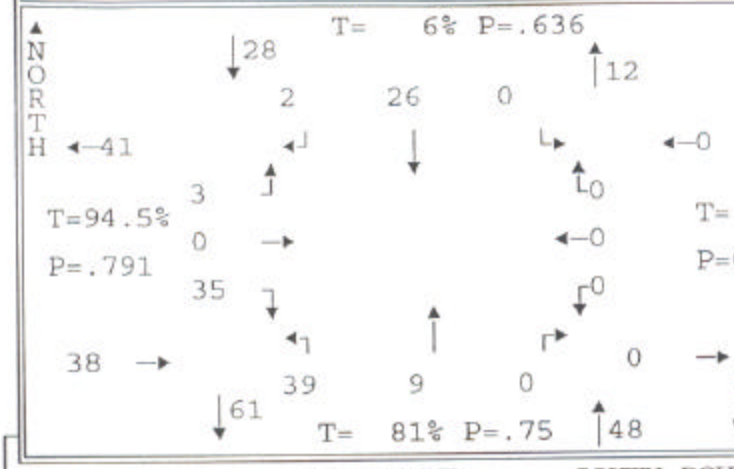
- Improved street lighting at site driveways to improve nighttime visibility in winter conditions;
- Work with school districts to identify school bus stop areas for children and provide widened shoulder areas (where needed or not already provided) on key routes in the area.

Appendix A

Traffic Counts

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
61ST/BENNETT ROAD AT STOREDAHL PIT ROAD

16916



DATE OF COUNT: 07/01/98
DAY OF WEEK: Wed
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

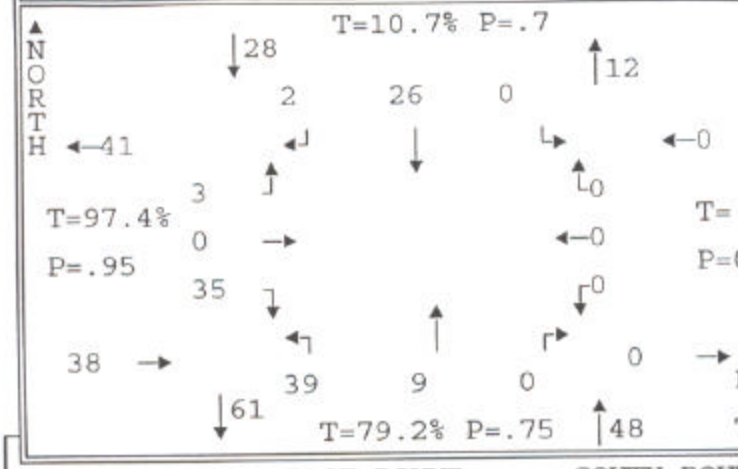
WHAK

Peak Hour
08:00-09:00
TEV=114

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	WEST BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
07:00-07:05	4	0	0	0	2	0	1	1	0	0	0	0	8
07:05-07:10	2	0	0	0	1	0	1	0	0	0	0	0	4
07:10-07:15	3	0	1	0	2	0	1	0	0	0	0	0	7
07:15-07:20	4	0	0	0	1	0	0	1	0	0	0	0	6
07:20-07:25	3	0	1	0	4	0	3	0	0	0	0	0	11
07:25-07:30	2	0	0	0	0	0	4	0	0	0	0	0	6
07:30-07:35	2	0	0	0	0	0	2	1	0	0	0	0	5
07:35-07:40	3	0	0	0	1	0	1	0	0	0	0	0	5
07:40-07:45	2	0	0	0	4	0	3	2	0	0	0	0	11
07:45-07:50	3	0	0	0	3	0	4	0	0	0	0	0	10
07:50-07:55	3	0	0	1	3	0	3	1	0	0	0	0	11
07:55-08:00	2	0	0	0	0	0	2	0	0	0	0	0	4
08:00-08:05	1	0	1	0	1	0	3	3	0	0	0	0	9
08:05-08:10	5	0	0	0	1	0	5	1	0	0	0	0	12
08:10-08:15	3	0	0	0	1	0	4	0	0	0	0	0	8
08:15-08:20	2	0	0	1	2	0	1	0	0	0	0	0	6
08:20-08:25	4	0	0	0	1	0	2	1	0	0	0	0	8
08:25-08:30	3	0	1	0	1	0	3	0	0	0	0	0	8
08:30-08:35	4	0	0	0	4	0	4	1	0	0	0	0	13
08:35-08:40	3	0	0	0	2	0	2	1	0	0	0	0	8
08:40-08:45	2	0	1	0	4	0	3	0	0	0	0	0	10
08:45-08:50	1	0	0	1	3	0	5	0	0	0	0	0	10
08:50-08:55	1	0	0	0	3	0	4	1	0	0	0	0	9
08:55-09:00	6	0	0	0	3	0	3	1	0	0	0	0	13
Total Survey	68	0	5	3	47	0	64	15	0	0	0	0	202
PHF	.8	0	.75	.5	.65	0	.81	.56	0	0	0	0	.890
% Trucks	98.5	0	40	66.7	2.1	0	98.4	6.7	0	0	0	0	67.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	33	0	2	1	21	0	25	6	0	0	0	0	88
07:15-08:15	33	0	2	1	19	0	34	9	0	0	0	0	98
07:30-08:30	33	0	2	2	18	0	33	9	0	0	0	0	97
07:45-08:45	35	0	3	2	23	0	36	8	0	0	0	0	107
08:00-09:00	35	0	3	2	26	0	39	9	0	0	0	0	114

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
61ST/BENNETT ROAD AT STOREDAHL PIT ROAD



DATE OF COUNT: 07/01/98
DAY OF WEEK: Wed
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

WHAK

Peak Hour
08:00-09:00
TEV=114

Traffic Smithy
(503)641-6333

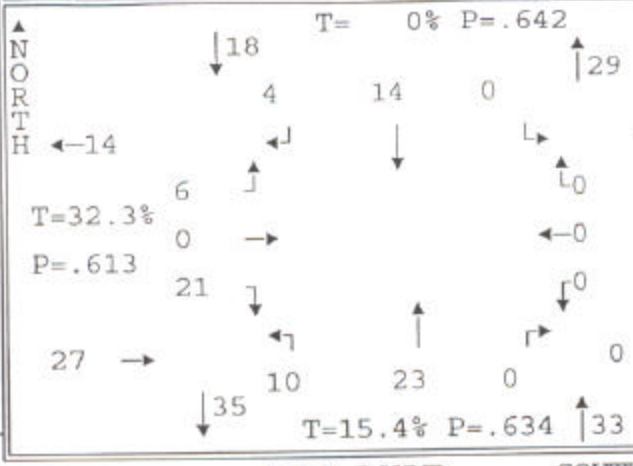
TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
ALL VEHICLES													
08:00-08:15	9	0	1	0	3	0	12	4	0	0	0	0	29
08:15-08:30	9	0	1	1	4	0	6	1	0	0	0	0	22
08:30-08:45	9	0	1	0	10	0	9	2	0	0	0	0	31
08:45-09:00	8	0	0	1	9	0	12	2	0	0	0	0	32
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
08:00-08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15-08:30	0	0	1	1	0	0	0	0	0	0	0	0	2
08:30-08:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45-09:00	0	0	0	0	0	0	0	0	0	0	0	0	0
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
08:00-08:15	1	0	1	0	0	0	3	0	0	0	0	0	5
08:15-08:30	3	0	0	0	0	0	0	0	0	0	0	0	3
08:30-08:45	0	0	0	0	1	0	0	0	0	0	0	0	1
08:45-09:00	0	0	0	1	0	0	3	0	0	0	0	0	4
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
08:00-08:15	8	0	0	0	0	0	9	0	0	0	0	0	17
08:15-08:30	6	0	0	0	0	0	6	0	0	0	0	0	12
08:30-08:45	9	0	0	0	0	0	9	0	0	0	0	0	18
08:45-09:00	8	0	0	0	0	0	8	0	0	0	0	0	16
BICYCLES													
08:00-08:15	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15-08:30	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30-08:45	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45-09:00	0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIANS	CROSSWALK USEAGE SOUTH	WEST	EAST	NORTH	ALL
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0

Peak Hour by Movement													
PHF	.97	0	.75	.5	.65	0	.81	.56	0	0	0	0	.890
% Trucks(all)	100	0	66.7	100	3.8	0	97.4	0	0	0	0	0	68.4
% Trucks(M+H)	100	0	33.3	50	3.8	0	97.4	0	0	0	0	0	66.7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	33	0	2	1	21	0	25	6	0	0	0	0	88
07:15-08:15	33	0	2	1	19	0	34	9	0	0	0	0	98
07:30-08:30	33	0	2	2	18	0	33	9	0	0	0	0	97
07:45-08:45	35	0	3	2	23	0	36	8	0	0	0	0	107
08:00-09:00	35	0	3	2	26	0	39	9	0	0	0	0	114

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
61ST/BENNETT ROAD AT STOREDAHL PIT ROAD

16917



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

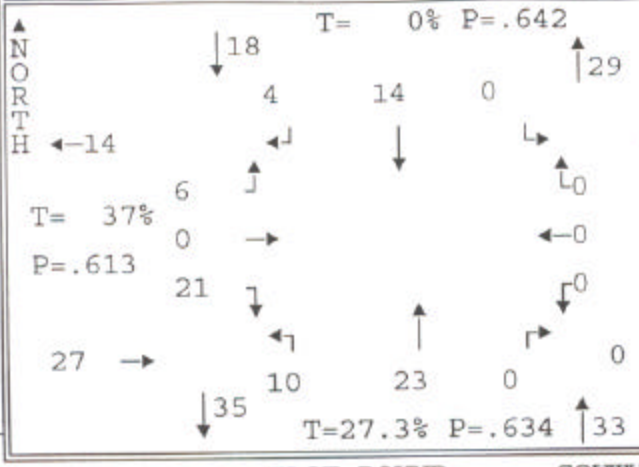
WHAJ

Peak Hour
16:00-17:00
TEV=78

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	6	0	2	0	3	0	0	0	0	0	0	0	11
16:05-16:10	3	0	0	0	1	0	0	1	0	0	0	0	5
16:10-16:15	0	0	0	2	1	0	2	1	0	0	0	0	6
16:15-16:20	0	0	1	0	1	0	2	5	0	0	0	0	9
16:20-16:25	4	0	2	1	0	0	1	1	0	0	0	0	9
16:25-16:30	1	0	0	0	1	0	1	3	0	0	0	0	6
16:30-16:35	2	0	1	0	1	0	0	0	0	0	0	0	4
16:35-16:40	1	0	0	1	0	0	2	1	0	0	0	0	5
16:40-16:45	0	0	0	0	0	0	1	1	0	0	0	0	2
16:45-16:50	1	0	0	0	3	0	0	3	0	0	0	0	7
16:50-16:55	2	0	0	0	1	0	1	3	0	0	0	0	7
16:55-17:00	1	0	0	0	2	0	0	4	0	0	0	0	7
17:00-17:05	1	0	0	0	0	0	0	5	0	0	0	0	6
17:05-17:10	0	0	0	0	2	0	0	4	0	0	0	0	6
17:10-17:15	1	0	0	0	0	0	0	2	0	0	0	0	3
17:15-17:20	0	0	0	0	2	0	0	2	0	0	0	0	4
17:20-17:25	0	0	0	0	0	0	0	3	0	0	0	0	3
17:25-17:30	0	0	1	0	2	0	1	2	0	0	0	0	6
17:30-17:35	0	0	0	1	0	0	0	3	0	0	0	0	4
17:35-17:40	0	0	0	0	2	0	0	2	0	0	0	0	4
17:40-17:45	1	0	0	0	0	0	0	1	0	0	0	0	2
17:45-17:50	0	0	0	0	2	0	0	2	0	0	0	0	4
17:50-17:55	0	0	0	0	2	0	0	1	0	0	0	0	3
17:55-18:00	0	0	0	0	0	0	0	4	0	0	0	0	4
Total Survey	24	0	7	5	26	0	11	54	0	0	0	0	127
PHF	.58	0	.5	.33	.58	0	.5	.57	0	0	0	0	.812
% Trucks	37.5	0	14.3	0	0	0	81.8	1.9	0	0	0	0	15.7
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	21	0	6	4	14	0	10	23	0	0	0	0	78
16:15-17:15	14	0	4	2	11	0	8	32	0	0	0	0	71
16:30-17:30	9	0	2	1	13	0	5	30	0	0	0	0	60
16:45-17:45	7	0	1	1	14	0	2	34	0	0	0	0	59
17:00-18:00	3	0	1	1	12	0	1	31	0	0	0	0	49

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
61ST/BENNETT ROAD AT STOREDAHL PIT ROAD



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

WHAJ

Peak Hour
16:00-17:00
TEV=78

Traffic Smithy
(503)641-6333

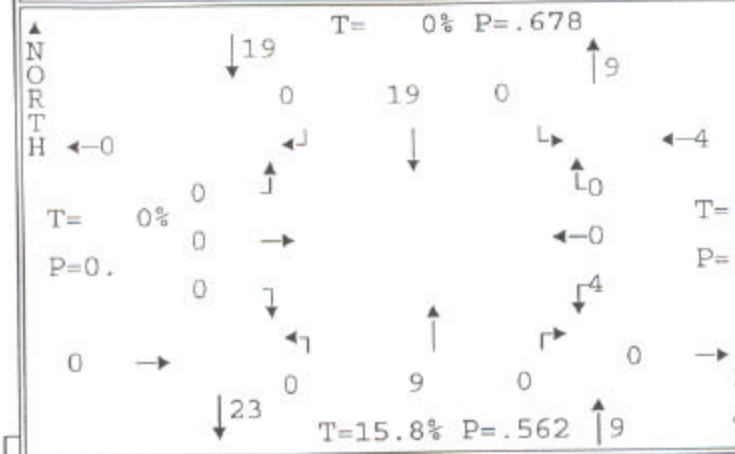
TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	SOUTH BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	NORTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	WEST BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
ALL VEHICLES													
16:00-16:15	9	0	2	2	5	0	2	2	0	0	0	0	22
16:15-16:30	5	0	3	1	2	0	4	9	0	0	0	0	24
16:30-16:45	3	0	1	1	1	0	3	2	0	0	0	0	11
16:45-17:00	4	0	0	0	6	0	1	10	0	0	0	0	21
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
16:00-16:15	2	0	0	0	0	0	1	0	0	0	0	0	3
16:15-16:30	2	0	0	0	0	0	4	0	0	0	0	0	6
16:30-16:45	2	0	0	0	0	0	3	0	0	0	0	0	5
16:45-17:00	1	0	0	0	0	0	0	0	0	0	0	0	1
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
16:00-16:15	2	0	1	0	0	0	0	0	0	0	0	0	3
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	1	0	0	0	0	0	1
BICYCLES													
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIANS	CROSSWALK USEAGE SOUTH	WEST	EAST	NORTH	ALL
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0

Peak Hour by Movement													
PHF	.58	0	.5	.5	.58	0	.63	.57	0	0	0	0	.812
% Trucks(all)	42.9	0	16.7	0	0	0	90	0	0	0	0	0	24.4
% Trucks(M+H)	42.9	0	16.7	0	0	0	90	0	0	0	0	0	24.4
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	21	0	6	4	14	0	10	23	0	0	0	0	78
16:15-17:15	14	0	4	2	11	0	8	32	0	0	0	0	71
16:30-17:30	9	0	2	1	13	0	5	30	0	0	0	0	60
16:45-17:45	7	0	1	1	14	0	2	34	0	0	0	0	59
17:00-18:00	3	0	1	1	12	0	1	31	0	0	0	0	49

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
BEVIN/MOORE ROAD AT 284TH STREET

16910



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

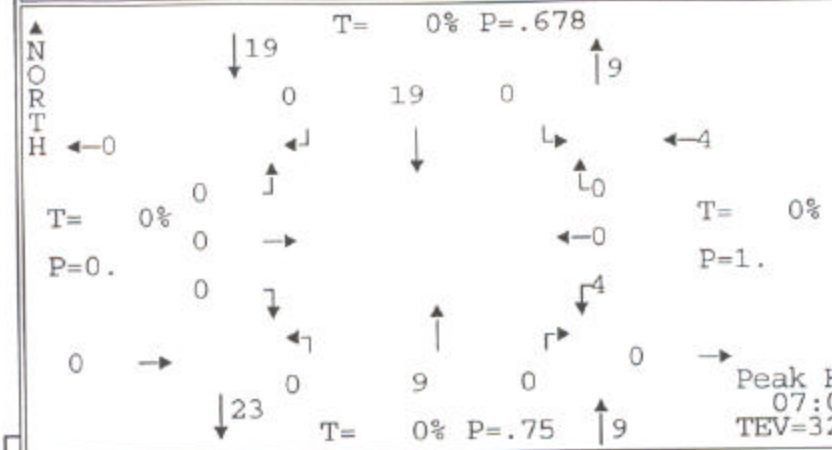
GMSV

Peak Hour
07:00-08:00
TEV=32

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
07:00-07:05	0	0	0	0	1	0	0	0	0	1	0	0	2
07:05-07:10	0	0	0	0	2	0	0	1	0	0	0	0	3
07:10-07:15	0	0	0	0	0	0	0	2	0	0	0	0	2
07:15-07:20	0	0	0	0	0	0	0	0	0	0	0	0	0
07:20-07:25	0	0	0	0	3	0	0	2	0	0	0	0	5
07:25-07:30	0	0	0	0	4	0	0	0	0	1	0	0	5
07:30-07:35	0	0	0	0	0	0	0	0	0	0	0	0	0
07:35-07:40	0	0	0	0	3	0	0	0	0	0	0	0	3
07:40-07:45	0	0	0	0	1	0	0	1	0	1	0	0	3
07:45-07:50	0	0	0	0	1	0	0	2	0	0	0	0	3
07:50-07:55	0	0	0	0	3	0	0	1	0	1	0	0	5
07:55-08:00	0	0	0	0	1	0	0	0	0	0	0	0	1
08:00-08:05	0	0	0	0	1	0	0	1	0	0	0	0	2
08:05-08:10	0	0	0	0	0	0	0	0	0	0	0	0	0
08:10-08:15	0	0	0	0	1	0	0	0	0	0	0	1	2
08:15-08:20	0	0	0	0	1	1	0	0	0	0	0	1	3
08:20-08:25	0	0	0	0	0	0	0	0	0	0	0	0	0
08:25-08:30	0	0	0	0	1	0	0	0	0	0	0	1	2
08:30-08:35	0	0	0	0	5	0	0	0	0	0	0	0	5
08:35-08:40	0	0	0	0	1	0	0	0	0	0	0	0	1
08:40-08:45	0	0	0	0	3	0	0	1	0	0	0	0	4
08:45-08:50	0	0	0	0	1	0	0	2	1	0	0	0	4
08:50-08:55	0	0	0	0	1	0	0	3	0	0	0	1	3
08:55-09:00	0	0	0	0	0	0	0	2	0	0	0	1	3
Total Survey	0	0	0	0	34	1	0	18	1	4	0	4	62
PHF	0	0	0	0	.68	0	0	.56	0	.5	0	0	.727
% Trucks	0	0	0	0	0	0	0	16.7	0	0	0	0	4.8
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	0	0	0	0	19	0	0	9	0	4	0	0	32
07:15-08:15	0	0	0	0	18	0	0	7	0	3	0	1	29
07:30-08:30	0	0	0	0	13	1	0	5	0	2	0	3	24
07:45-08:45	0	0	0	0	18	1	0	5	0	1	0	3	28
08:00-09:00	0	0	0	0	15	1	0	9	1	0	0	4	30

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
BEVIN/MOORE ROAD AT 284TH STREET



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

GMSV

Traffic Smithy
(503)641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
ALL VEHICLES													
07:00-07:15	0	0	0	0	3	0	0	3	0	1	0	0	7
07:15-07:30	0	0	0	0	7	0	0	2	0	1	0	0	10
07:30-07:45	0	0	0	0	4	0	0	1	0	1	0	0	6
07:45-08:00	0	0	0	0	5	0	0	3	0	1	0	0	9
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0	0	0	0	0	0	0
BICYCLES													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0	0	0	0	0	0	0

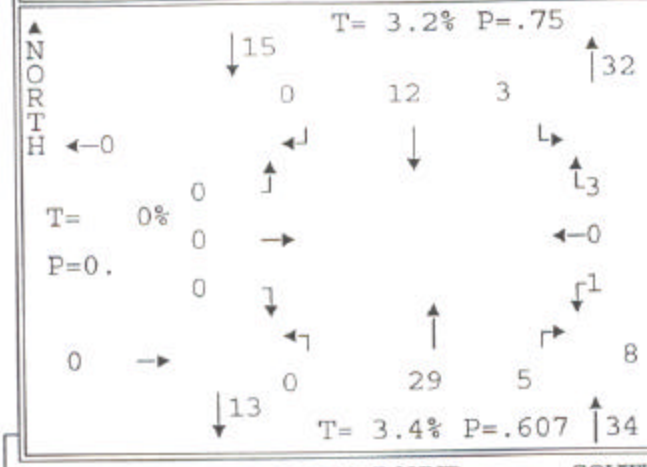
PEDESTRIANS	CROSSWALK USEAGE				ALL
	SOUTH	WEST	EAST	NORTH	
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0

Peak Hour by Movement													
PHF	0	0	0	0	.68	0	0	.75	0	1	0	0	.8
% Trucks(all)	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks(M+H)	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
07:00-08:00	0	0	0	0	19	0	0	9	0	4	0	0	32
07:15-08:15	0	0	0	0	18	0	0	7	0	3	0	1	29
07:30-08:30	0	0	0	0	13	1	0	5	0	2	0	3	24
07:45-08:45	0	0	0	0	18	1	0	5	0	1	0	3	28
08:00-09:00	0	0	0	0	15	1	0	9	1	0	0	4	30

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
BEVIN/MOORE ROAD AT 284TH STREET

16911



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

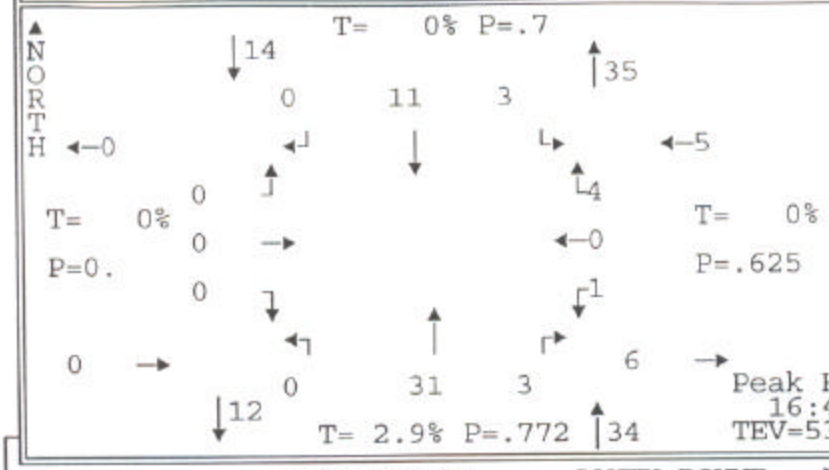
SBAW

Peak Hour
16:35-17:35
TEV=53

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↲	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	0	0	0	0	4	1	0	2	0	0	0	0	7
16:05-16:10	0	0	0	0	1	0	0	1	0	0	0	0	2
16:10-16:15	0	0	0	0	2	0	0	1	0	0	0	1	4
16:15-16:20	0	0	0	0	1	0	0	6	0	0	0	0	7
16:20-16:25	0	0	0	0	0	0	0	3	0	0	0	0	3
16:25-16:30	0	0	0	0	1	2	0	2	0	0	0	0	5
16:30-16:35	0	0	0	0	0	0	0	0	0	0	0	1	1
16:35-16:40	0	0	0	0	0	0	0	0	2	0	0	0	2
16:40-16:45	0	0	0	0	1	0	0	0	0	0	0	0	1
16:45-16:50	0	0	0	0	2	1	0	2	1	1	0	0	7
16:50-16:55	0	0	0	0	1	0	0	3	0	0	0	1	5
16:55-17:00	0	0	0	0	0	0	0	4	0	0	0	0	4
17:00-17:05	0	0	0	0	1	1	0	4	1	0	0	0	7
17:05-17:10	0	0	0	0	1	0	0	5	0	0	0	0	6
17:10-17:15	0	0	0	0	0	0	0	1	0	0	0	0	1
17:15-17:20	0	0	0	0	2	0	0	2	0	0	0	0	4
17:20-17:25	0	0	0	0	1	0	0	3	0	0	0	0	4
17:25-17:30	0	0	0	0	1	1	0	2	1	0	0	2	7
17:30-17:35	0	0	0	0	2	0	0	3	0	0	0	0	5
17:35-17:40	0	0	0	0	0	0	0	1	0	0	0	1	2
17:40-17:45	0	0	0	0	0	0	0	1	0	0	0	0	1
17:45-17:50	0	0	0	0	3	0	0	2	0	0	0	1	6
17:50-17:55	0	0	0	0	1	0	0	2	0	0	0	0	3
17:55-18:00	0	0	0	0	0	0	0	4	0	0	0	0	4
Total Survey	0	0	0	0	25	6	0	54	5	1	0	7	98
PHF	0	0	0	0	.75	.75	0	.56	.42	.25	0	.38	.779
% Trucks	0	0	0	0	0	16.7	0	3.7	0	0	0	0	3.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	13	4	0	24	3	1	0	3	48
16:15-17:15	0	0	0	0	8	4	0	30	4	1	0	2	49
16:30-17:30	0	0	0	0	10	3	0	26	5	1	0	4	49
16:45-17:45	0	0	0	0	11	3	0	31	3	1	0	4	53
17:00-18:00	0	0	0	0	12	2	0	30	2	0	0	4	50

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
BEVIN/MOORE ROAD AT 284TH STREET



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

SBAW

Peak Hour
16:45-17:45
TEV=53

Traffic Smithy
(503)641-6333

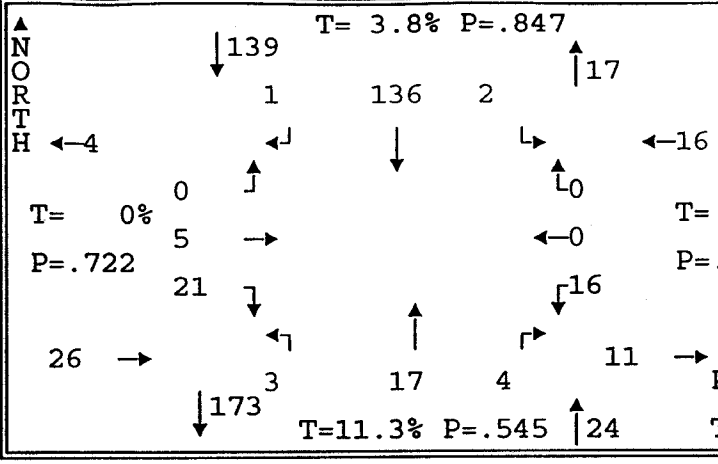
TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
ALL VEHICLES													
16:45-17:00	0	0	0	0	3	1	0	9	1	1	0	1	16
17:00-17:15	0	0	0	0	2	1	0	10	1	0	0	0	14
17:15-17:30	0	0	0	0	4	1	0	7	1	0	0	2	15
17:30-17:45	0	0	0	0	2	0	0	5	0	0	0	1	8
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	1	0	0	0	0	1
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
BICYCLES													
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIANS	CROSSWALK USEAGE SOUTH	WEST	EAST	NORTH	ALL
16:45-17:00	0	0	0	0	0
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0

Peak Hour by Movement													
PHF	0	0	0	0	.69	.75	0	.77	.75	.25	0	.5	.828
% Trucks(all)	0	0	0	0	0	0	0	3.2	0	0	0	0	1.9
% Trucks(M+H)	0	0	0	0	0	0	0	0	0	0	0	0	0
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	0	0	0	0	13	4	0	24	3	1	0	3	48
16:15-17:15	0	0	0	0	8	4	0	30	4	1	0	2	49
16:30-17:30	0	0	0	0	10	3	0	26	5	1	0	4	49
16:45-17:45	0	0	0	0	11	3	0	31	3	1	0	4	53
17:00-18:00	0	0	0	0	12	2	0	30	2	0	0	4	50

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
82ND AVENUE AT 279TH STREET

16912



DATE OF COUNT: 07/01/98
DAY OF WEEK: Wed
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

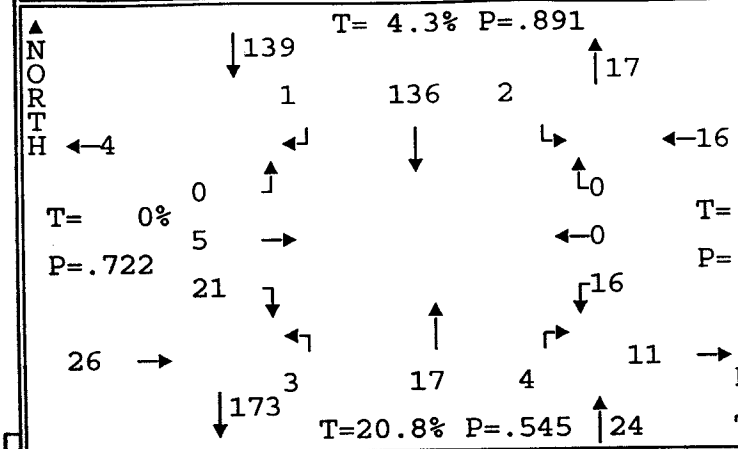
RMBH

Peak Hour
07:00-08:00
TEV=205

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
07:00-07:05	1	0	0	0	16	0	0	0	0	1	0	0	18
07:05-07:10	2	1	0	0	5	0	1	3	0	1	0	0	13
07:10-07:15	0	0	0	0	16	0	0	0	0	2	0	0	18
07:15-07:20	1	1	0	0	17	1	0	0	0	1	0	0	21
07:20-07:25	2	0	0	0	7	0	0	1	1	0	0	0	11
07:25-07:30	3	0	0	0	14	0	0	1	0	1	0	0	19
07:30-07:35	3	0	0	0	13	0	1	2	0	3	0	0	22
07:35-07:40	1	2	0	0	7	0	0	1	1	2	0	0	14
07:40-07:45	3	0	0	1	11	0	0	1	0	1	0	0	17
07:45-07:50	2	0	0	0	10	1	0	2	0	0	0	0	15
07:50-07:55	2	0	0	0	14	0	0	2	1	3	0	0	22
07:55-08:00	1	1	0	0	6	0	1	4	1	1	0	0	15
08:00-08:05	0	0	0	0	8	0	0	5	0	0	1	0	14
08:05-08:10	2	1	1	0	6	1	0	2	0	1	0	0	14
08:10-08:15	2	1	0	0	5	1	2	4	0	5	1	0	21
08:15-08:20	2	1	0	0	7	0	0	2	0	0	0	0	12
08:20-08:25	1	0	1	0	7	0	0	2	0	0	0	0	11
08:25-08:30	1	1	0	0	10	0	0	1	0	1	0	0	14
08:30-08:35	1	0	0	0	4	0	1	2	0	2	0	1	11
08:35-08:40	2	0	0	0	7	0	0	0	0	4	1	0	14
08:40-08:45	1	1	0	0	5	1	0	1	0	2	2	0	13
08:45-08:50	4	0	0	0	5	0	1	1	1	3	0	1	16
08:50-08:55	1	1	0	0	4	0	0	0	2	1	0	0	9
08:55-09:00	1	0	0	0	3	0	0	2	0	0	0	0	6
Total Survey	39	11	2	1	207	5	7	39	7	35	5	2	360
PHF	.66	.63	0	.25	.85	.5	.75	.53	.5	.67	0	0	.931
% Trucks	0	0	0	0	3.9	0	0	15.4	0	2.9	0	0	4.2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	21	5	0	1	136	2	3	17	4	16	0	0	205
07:15-08:15	22	6	1	1	118	4	4	25	4	18	2	0	205
07:30-08:30	20	7	2	1	104	3	4	28	3	17	2	0	191
07:45-08:45	17	6	2	0	89	4	4	27	2	19	5	1	176
08:00-09:00	18	6	2	0	71	3	4	22	3	19	5	2	155

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
82ND AVENUE AT 279TH STREET



DATE OF COUNT: 07/01/98
DAY OF WEEK: Wed
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

RMBH

Peak Hour
07:00-08:00
TEV=205

Traffic Smithy
(503)641-6333

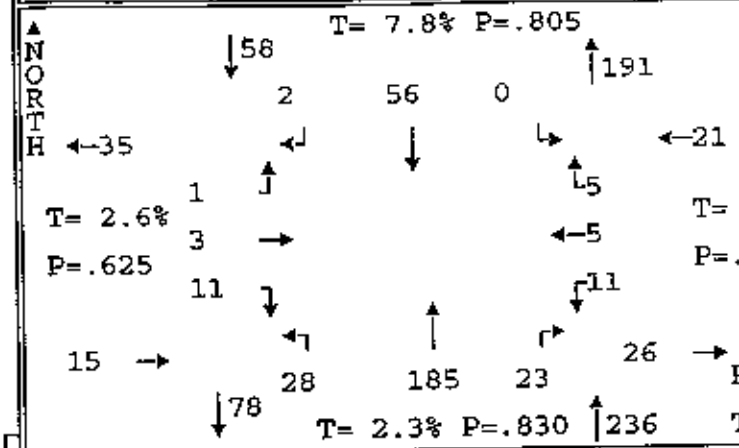
TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
ALL VEHICLES													
07:00-07:15	3	1	0	0	37	0	1	3	0	4	0	0	49
07:15-07:30	6	1	0	0	38	1	0	2	1	2	0	0	51
07:30-07:45	7	2	0	1	31	0	1	4	1	6	0	0	53
07:45-08:00	5	1	0	0	30	1	1	8	2	4	0	0	52
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	1	0	0	0	0	0	0	0	1
07:45-08:00	0	0	0	0	2	0	0	1	0	0	0	0	3
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	1	0	0	1
07:30-07:45	0	0	0	0	0	0	0	2	0	0	0	0	2
07:45-08:00	0	0	0	0	2	0	0	0	0	0	0	0	2
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	1	0	0	0	0	1
07:30-07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	1	0	0	1	0	0	0	0	2
BICYCLES													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIANS	CROSSWALK USEAGE SOUTH	WEST	EAST	NORTH	ALL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0

Peak Hour by Movement													
PHF	.75	.63	0	.25	.89	.5	.75	.53	.5	.67	0	0	.966
% Trucks(all)	0	0	0	0	4.4	0	0	29.4	0	6.3	0	0	5.9
% Trucks(M+H)	0	0	0	0	2.2	0	0	23.5	0	6.3	0	0	3.9
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	21	5	0	1	136	2	3	17	4	16	0	0	205
07:15-08:15	22	6	1	1	118	4	4	25	4	18	2	0	205
07:30-08:30	20	7	2	1	104	3	4	28	3	17	2	0	191
07:45-08:45	17	6	2	0	89	4	4	27	2	19	5	1	176
08:00-09:00	18	6	2	0	71	3	4	22	3	19	5	2	155

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
82ND AVENUE AT 279TH STREET

1693



DATE OF COUNT: 07/01/98
DAY OF WEEK: Wed
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

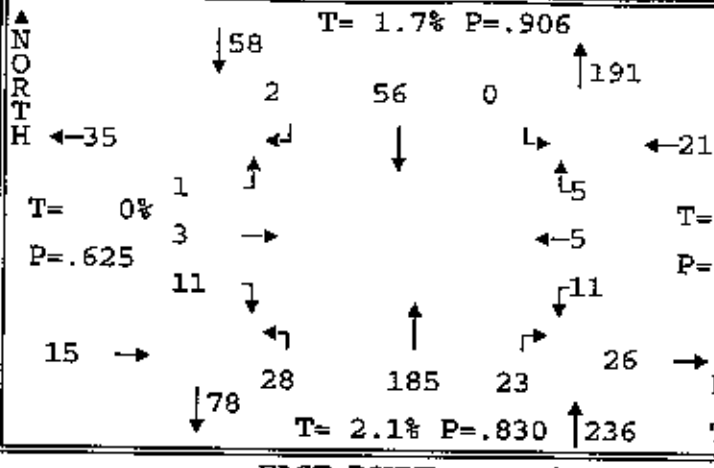
RMBI

Peak Hour
17:00-18:00
TEV=330

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	SOUTH BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	WEST BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
16:00-16:05	1	2	0	0	3	1	1	8	1	0	0	0	17
16:05-16:10	0	0	0	0	2	0	1	4	2	1	0	0	12
16:10-16:15	1	2	0	0	2	4	1	2	10	2	1	3	30
16:15-16:20	2	0	0	0	0	4	1	0	9	2	1	0	20
16:20-16:25	6	0	0	0	0	7	0	1	12	3	0	0	30
16:25-16:30	0	0	0	0	0	4	0	3	9	0	1	0	17
16:30-16:35	0	0	0	0	0	2	0	1	7	3	0	0	13
16:35-16:40	0	0	4	0	0	1	0	3	17	2	0	0	26
16:40-16:45	0	4	1	0	0	3	0	4	16	1	0	1	30
16:45-16:50	1	1	0	0	0	4	0	3	12	0	1	1	24
16:50-16:55	0	1	1	0	0	3	0	1	11	0	0	1	19
16:55-17:00	0	1	0	0	0	2	0	2	11	0	2	0	18
17:00-17:05	0	0	0	0	0	7	0	2	25	0	1	0	35
17:05-17:10	0	1	0	0	0	2	0	3	14	2	0	3	25
17:10-17:15	2	0	0	0	2	5	0	4	20	1	2	0	37
17:15-17:20	1	0	0	0	0	5	0	3	17	1	0	0	27
17:20-17:25	1	0	0	0	0	6	0	2	14	3	1	0	28
17:25-17:30	1	0	0	0	0	5	0	2	11	3	0	1	22
17:30-17:35	2	0	0	0	0	1	0	1	15	3	1	0	23
17:35-17:40	1	0	0	0	0	5	0	2	11	1	2	0	22
17:40-17:45	0	2	1	0	0	4	0	2	18	3	2	1	33
17:45-17:50	0	0	0	0	0	3	0	2	16	2	2	0	28
17:50-17:55	2	0	0	0	0	9	0	2	8	1	0	0	22
17:55-18:00	2	0	0	0	0	4	0	3	16	3	0	0	28
Total Survey	22	14	3	4	95	3	50	311	39	20	13	12	586
PHF	.69	.38	.25	.25	.88	0	.7	.78	.64	.46	.31	.42	.850
% Trucks	4.5	0	0	0	7.4	33.3	2	2.3	2.6	0	0	0	3.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
16:00-17:00	11	11	2	2	39	3	22	126	16	9	8	7	256
16:15-17:15	11	8	2	2	44	1	27	163	14	10	4	8	294
16:30-17:30	5	8	2	2	45	0	30	175	16	9	4	8	304
16:45-17:45	8	6	2	2	49	0	27	179	17	12	5	6	313
17:00-18:00	11	3	1	2	56	0	28	185	23	11	5	5	330

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
82ND AVENUE AT 279TH STREET



DATE OF COUNT: 07/01/98
DAY OF WEEK: Wed
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

RMBI

Peak Hour
17:00-18:00
TEV=330

Traffic Smithy
(503)641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
ALL VEHICLES													
17:00-17:15	2	1	0	2	14	0	9	59	3	3	1	3	97
17:15-17:30	2	0	0	0	16	0	7	42	7	1	0	2	77
17:30-17:45	3	2	1	0	10	0	5	44	7	5	1	0	78
17:45-18:00	4	0	0	0	16	0	7	40	6	2	3	0	78
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	1	0	1	0	1	0	0	0	3
17:30-17:45	0	0	0	0	0	0	0	1	0	0	0	0	1
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
17:00-17:15	0	0	0	0	0	0	0	1	0	0	0	0	1
17:15-17:30	0	0	0	0	0	0	0	1	0	0	0	0	1
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0
BICYCLES													
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

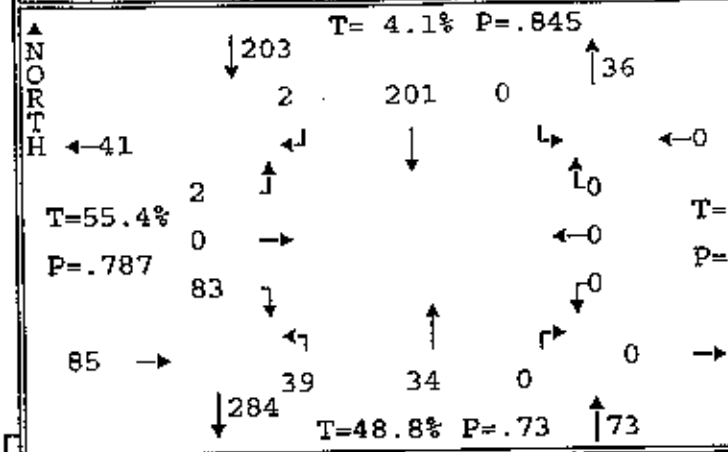
PEDESTRIANS	CROSSWALK USEAGE				ALL
	SOUTH	WEST	EAST	NORTH	
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0

Peak Hour by Movement													
PHF	.69	.38	.25	.25	.88	0	.78	.78	.82	.55	.42	.42	.850
% Trucks(all)	0	0	0	0	1.8	0	3.6	1.6	4.3	0	0	0	1.8
% Trucks(M+H)	0	0	0	0	0	0	0	1.1	0	0	0	0	.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
16:00-17:00	11	11	2	2	39	3	22	126	16	9	8	7	256
16:15-17:15	11	8	2	2	44	1	27	163	14	10	4	8	294
16:30-17:30	5	8	2	2	45	0	30	175	16	9	4	8	304
16:45-17:45	8	6	2	2	49	0	27	179	17	12	5	6	313
17:00-18:00	11	3	1	2	56	0	28	185	23	11	5	5	330

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HYATT ROAD AT DAYBREAK ROAD

16914



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

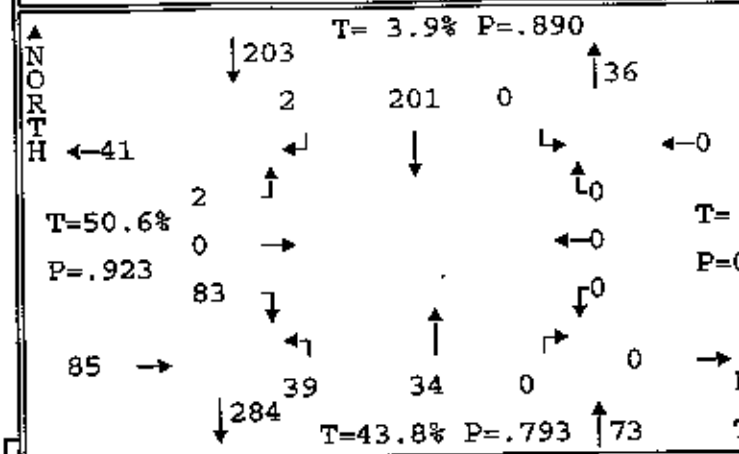
RMBF

Peak Hour
07:00-08:00
TEV=361

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↑	ALL
07:00-07:05	8	0	0	0	22	0	3	0	0	0	0	0	33
07:05-07:10	7	0	1	0	13	0	2	1	0	0	0	0	24
07:10-07:15	6	0	0	1	17	0	3	2	0	0	0	0	29
07:15-07:20	3	0	0	1	20	0	7	3	0	0	0	0	34
07:20-07:25	6	0	0	0	21	0	3	4	0	0	0	0	34
07:25-07:30	10	0	0	0	14	0	5	1	0	0	0	0	30
07:30-07:35	7	0	0	0	18	0	1	7	0	0	0	0	33
07:35-07:40	10	0	0	0	24	0	2	0	0	0	0	0	36
07:40-07:45	6	0	0	0	15	0	6	2	0	0	0	0	29
07:45-07:50	3	0	1	0	14	0	4	2	0	0	0	0	24
07:50-07:55	12	0	0	0	10	0	3	8	0	0	0	0	33
07:55-08:00	5	0	0	0	13	0	0	4	0	0	0	0	22
08:00-08:05	1	0	0	0	14	0	10	7	0	0	0	0	32
08:05-08:10	4	0	0	0	11	0	2	0	0	0	0	0	17
08:10-08:15	5	0	0	0	9	0	3	2	0	0	0	0	19
08:15-08:20	4	0	0	0	8	0	1	2	0	0	0	0	15
08:20-08:25	6	0	0	0	8	0	5	5	0	0	0	0	24
08:25-08:30	2	0	1	0	14	0	3	2	0	0	0	0	22
08:30-08:35	11	0	0	0	5	0	3	2	0	0	0	0	21
08:35-08:40	6	0	0	0	12	0	8	4	0	0	0	0	30
08:40-08:45	5	0	1	0	11	0	7	3	0	0	0	0	27
08:45-08:50	5	0	0	0	5	0	8	2	0	0	0	0	20
08:50-08:55	6	0	0	0	6	0	7	1	0	0	0	0	20
08:55-09:00	6	0	0	0	10	0	6	4	0	0	0	0	26
Total Survey	144	0	4	2	314	0	102	68	0	0	0	0	634
PHF	.77	0	.5	.25	.87	0	.65	.61	0	0	0	0	.911
% Trucks	56.3	0	25	50	3.8	0	76.5	7.4	0	0	0	0	28.1
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Totals													
07:00-08:00	83	0	2	2	201	0	39	34	0	0	0	0	361
07:15-08:15	72	0	1	1	183	0	46	40	0	0	0	0	343
07:30-08:30	65	0	2	0	158	0	40	41	0	0	0	0	306
07:45-08:45	64	0	3	0	129	0	49	41	0	0	0	0	286
08:00-09:00	61	0	2	0	113	0	63	34	0	0	0	0	273

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
HYATT ROAD AT DAYBREAK ROAD



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 07:00
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

RMBF

Peak Hour
07:00-08:00
TEV=361

Traffic Smithy
(503)641-6333

TIME PERIOD FROM - TO	EAST BOUND →	EAST BOUND ↱	EAST BOUND ↴	SOUTH BOUND ↴	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↴	WEST BOUND ←	WEST BOUND ↰	ALL
ALL VEHICLES													
07:00-07:15	21	0	1	1	52	0	8	3	0	0	0	0	86
07:15-07:30	19	0	0	1	55	0	15	8	0	0	0	0	98
07:30-07:45	23	0	0	0	57	0	9	9	0	0	0	0	98
07:45-08:00	20	0	1	0	37	0	7	14	0	0	0	0	79
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	1	0	0	0	0	0	0	0	0	0	0	0	1
07:30-07:45	0	0	0	0	1	0	0	0	0	0	0	0	1
07:45-08:00	0	0	0	0	1	0	0	2	0	0	0	0	3
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
07:00-07:15	0	0	0	1	1	0	1	0	0	0	0	0	3
07:15-07:30	1	0	0	0	3	0	2	0	0	0	0	0	6
07:30-07:45	2	0	0	0	0	0	0	0	0	0	0	0	2
07:45-08:00	0	0	1	0	0	0	0	1	0	0	0	0	2
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
07:00-07:15	12	0	0	0	0	0	6	0	0	0	0	0	18
07:15-07:30	7	0	0	0	0	0	10	0	0	0	0	0	17
07:30-07:45	11	0	0	0	1	0	5	0	0	0	0	0	17
07:45-08:00	8	0	0	0	0	0	5	0	0	0	0	0	13
BICYCLES													
07:00-07:15	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	0	0	0	0	0	0	0	0	0	0	0

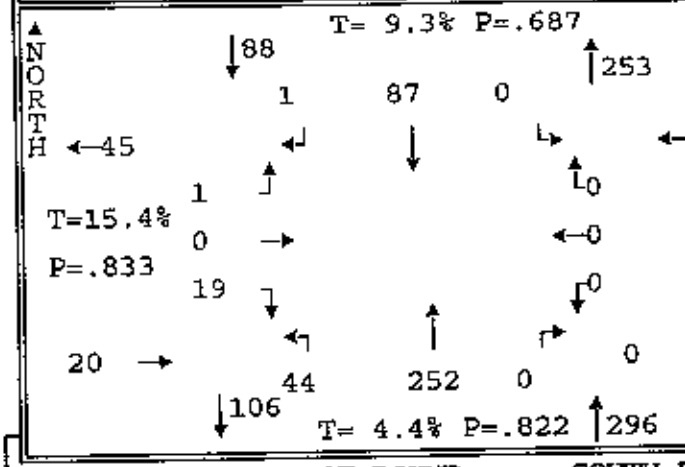
PEDESTRIANS	CROSSWALK USEAGE SOUTH	WEST	EAST	NORTH	ALL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0

Peak Hour by Movement													
PHF	.9	0	.5	.5	.88	0	.65	.61	0	0	0	0	.920
% Trucks(all)	50.6	0	50	50	3.5	0	74.4	8.8	0	0	0	0	23
% Trucks(M+H)	49.4	0	50	50	2.5	0	74.4	2.9	0	0	0	0	21.6
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
07:00-08:00	83	0	2	2	201	0	39	34	0	0	0	0	361
07:15-08:15	72	0	1	1	183	0	46	40	0	0	0	0	343
07:30-08:30	65	0	2	0	158	0	40	41	0	0	0	0	306
07:45-08:45	64	0	3	0	129	0	49	41	0	0	0	0	286
08:00-09:00	61	0	2	0	113	0	63	34	0	0	0	0	273

INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT
HYATT ROAD AT DAYBREAK ROAD

16915



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

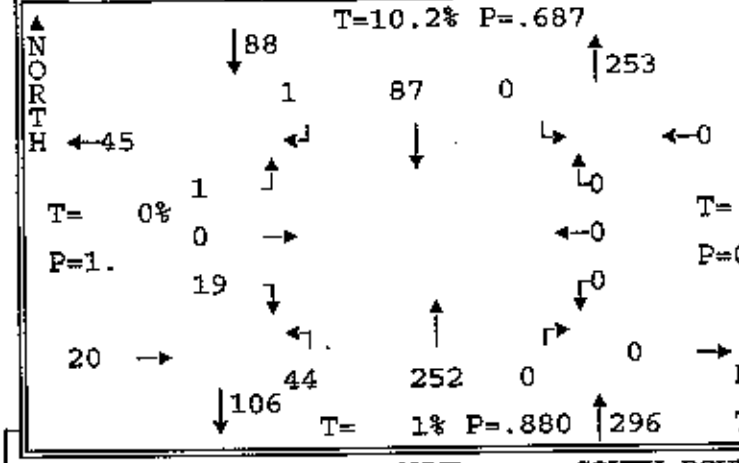
RMBG

Peak Hour
17:00-18:00
TEV=404

Traffic Smithy
(503) 641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↱	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	WEST BOUND ↱	WEST BOUND ↓	WEST BOUND ←	WEST BOUND ↰	ALL
16:00-16:05	10	0	0	0	6	0	5	17	0	0	0	0	38
16:05-16:10	3	0	1	0	7	0	3	20	0	0	0	0	34
16:10-16:15	2	0	0	0	7	0	6	14	0	0	0	0	29
16:15-16:20	2	0	0	0	8	0	6	16	0	0	0	0	32
16:20-16:25	5	0	0	1	6	0	3	19	0	0	0	0	34
16:25-16:30	1	0	0	0	8	0	2	15	0	0	0	0	26
16:30-16:35	3	0	1	0	3	0	4	11	0	0	0	0	22
16:35-16:40	2	0	1	0	6	0	3	22	0	0	0	0	34
16:40-16:45	1	0	0	0	3	0	4	14	0	0	0	0	22
16:45-16:50	7	0	1	0	7	0	6	10	0	0	0	0	31
16:50-16:55	1	0	1	0	6	0	5	24	0	0	0	0	37
16:55-17:00	3	0	0	0	5	0	6	18	0	0	0	0	32
17:00-17:05	1	0	0	0	17	0	4	18	0	0	0	0	40
17:05-17:10	3	0	0	0	4	0	2	20	0	0	0	0	29
17:10-17:15	1	0	0	0	11	0	1	18	0	0	0	0	31
17:15-17:20	2	0	0	0	1	0	3	18	0	0	0	0	24
17:20-17:25	0	0	0	0	5	0	4	21	0	0	0	0	30
17:25-17:30	3	0	0	0	12	0	7	14	0	0	0	0	36
17:30-17:35	1	0	0	0	5	0	2	21	0	0	0	0	29
17:35-17:40	2	0	0	0	4	0	3	20	0	0	0	0	29
17:40-17:45	1	0	1	0	8	0	6	30	0	0	0	0	46
17:45-17:50	2	0	0	0	9	0	1	27	0	0	0	0	39
17:50-17:55	2	0	0	0	5	0	5	21	0	0	0	0	33
17:55-18:00	1	0	0	1	6	0	6	24	0	0	0	0	38
Total Survey	59	0	6	2	159	0	97	452	0	0	0	0	775
PHF	.79	0	.25	.25	.68	0	.79	.81	0	0	0	0	.855
% Trucks	13.6	0	33.3	0	9.4	0	12.4	2.7	0	0	0	0	6.3
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	
Peds	0	0	0	0	1	0	0	1	0	0	0	0	
Hourly Totals													
16:00-17:00	40	0	5	1	72	0	53	200	0	0	0	0	371
16:15-17:15	30	0	4	1	84	0	46	205	0	0	0	0	370
16:30-17:30	27	0	4	0	80	0	49	208	0	0	0	0	368
16:45-17:45	25	0	3	0	85	0	49	232	0	0	0	0	394
17:00-18:00	19	0	1	1	87	0	44	252	0	0	0	0	404

INTERSECTION TURN MOVEMENT COUNT PEAK HOUR REPORT
HYATT ROAD AT DAYBREAK ROAD



DATE OF COUNT: 06/30/98
DAY OF WEEK: Tue
TIME STARTED: 16:00
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME
T=%TRUCKS BY APPROACH
P=PHF BY APPROACH

RMBG

Peak Hour
17:00-18:00
TEV=404

Traffic Smithy
(503)641-6333

TIME PERIOD FROM - TO	EAST BOUND ↓	EAST BOUND →	EAST BOUND ↑	SOUTH BOUND ↵	SOUTH BOUND ↓	SOUTH BOUND ↳	NORTH BOUND ↰	NORTH BOUND ↑	NORTH BOUND ↱	WEST BOUND ↴	WEST BOUND ←	WEST BOUND ↖	ALL
ALL VEHICLES													
17:00-17:15	5	0	0	0	32	0	7	56	0	0	0	0	100
17:15-17:30	5	0	0	0	18	0	14	53	0	0	0	0	90
17:30-17:45	4	0	1	0	17	0	11	71	0	0	0	0	104
17:45-18:00	5	0	0	1	20	0	12	72	0	0	0	0	110
LIGHT TRUCKS (SINGLE UNIT 2 AXLES)													
17:00-17:15	0	0	0	0	2	0	0	1	0	0	0	0	3
17:15-17:30	0	0	0	0	0	0	1	0	0	0	0	0	1
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0
MEDIUM TRUCKS (SINGLE UNIT > 2 AXLES)													
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	2	0	0	0	0	0	0	0	2
17:45-18:00	0	0	0	0	4	0	0	0	0	0	0	0	4
HEAVY TRUCKS (SEMI-TRACTOR TRAILER)													
17:00-17:15	0	0	0	0	0	0	0	1	0	0	0	0	1
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	1	0	0	0	0	0	0	0	1
BICYCLES													
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIANS	CROSSWALK USEAGE SOUTH	WEST	EAST	NORTH	ALL
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0
17:45-18:00	0	1	1	0	2

Peak Hour by Movement													
PHF	.95	0	.25	.25	.68	0	.79	.88	0	0	0	0	.918
% Trucks(all)	0	0	0	0	10.3	0	2.3	.8	0	0	0	0	3
% Trucks(M+H)	0	0	0	0	8	0	0	.4	0	0	0	0	2
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	

Hourly Totals													
16:00-17:00	40	0	5	1	72	0	53	200	0	0	0	0	371
16:15-17:15	30	0	4	1	84	0	46	205	0	0	0	0	370
16:30-17:30	27	0	4	0	80	0	49	208	0	0	0	0	368
16:45-17:45	25	0	3	0	85	0	49	232	0	0	0	0	394
17:00-18:00	19	0	1	1	87	0	44	252	0	0	0	0	404

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

*** Special Speed Study (#203) ***

Site ID : 1BEN49
Info 1 : BENNET ROAD
Info 2 : S OF STROEDAHL

Data Starts : 16:00 on 06/29/98
Data Ends : 08:00 on 07/01/98
Adj. Factor : 1.000%

Lane #1 Info : NORTHBOUND
Modes : AXLE,SPEED
Sensors : Axle-Axle Sensor Spacing: 16.0'

********** Lane 1 Special Speed Study **********

Date	Time	#1 0-19.9	#2 20-24.9	#3 25-29.9	#4 30-34.9	#5 35-39.9	#6 40-44.9	#7 45-49.9	#8 50-54.9	#9 55-59.9	#10 60-64.9	#11 65-69.9	#12 70-74.9	#13 75-79.9	#14 80-84.9	#15 85-89.9	#16 Other	Error	Total
06/29/98	16:00	0	1	1	1	9	16	12	8	2	0	0	0	0	0	0	0	0	50
Mon	17:00	0	0	1	1	1	6	11	18	4	1	0	0	0	0	0	0	0	43
	18:00	1	0	0	0	2	3	13	11	9	2	0	0	0	0	0	0	0	41
	19:00	0	0	0	0	1	2	8	7	4	0	0	0	0	0	0	0	0	22
	20:00	0	0	0	2	4	6	8	4	1	1	0	0	0	0	0	0	0	26
	21:00	0	0	0	0	4	9	4	3	0	0	0	0	0	0	0	0	0	20
	22:00	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	4
	23:00	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	3
Daily Total #1		1	1	2	4	21	44	58	52	21	5	0	0	0	0	0	0	0	209
Percent		0%	0%	1%	2%	10%	21%	28%	25%	10%	2%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent		0%	0%	1%	3%	13%	34%	62%	87%	97%	100%								
Average Hour		0	0	0	0	2	5	7	6	2	0	0	0	0	0	0	0	0	26

Avg Speed: 47.2mph 10% Speed: 37.5mph 50% Speed: 47.6mph 85% Speed: 53.7mph

)7/01/98
.0:11:09

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

Bennet Road
S. of Stredahl
NB

********** Lane 1 Special Speed Study **********

Date	Time	#1 0- 19.9	#2 20- 24.9	#3 25- 29.9	#4 30- 34.9	#5 35- 39.9	#6 40- 44.9	#7 45- 49.9	#8 50- 54.9	#9 55- 59.9	#10 60- 64.9	#11 65- 69.9	#12 70- 74.9	#13 75- 79.9	#14 80- 84.9	#15 85- 89.9	#16 Other	Error	Total
6/30/98	00:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Tue	01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	02:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	04:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	05:00	0	0	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	6
	06:00	0	0	0	1	4	17	3	0	2	0	0	0	0	0	0	0	0	27
	07:00	0	0	2	12	19	8	3	0	0	0	0	0	0	0	0	0	0	44
	08:00	0	0	4	19	22	12	0	0	0	0	0	0	0	0	0	0	0	57
	09:00	0	0	0	12	26	6	2	0	2	0	0	0	0	0	0	0	0	50
	10:00	0	1	1	22	26	12	1	1	0	0	1	0	0	0	0	0	0	65
	11:00	0	0	0	11	27	10	2	2	1	0	0	0	0	0	0	0	0	53
	12:00	0	0	3	7	22	7	2	6	1	1	0	0	0	0	0	0	0	49
	13:00	0	0	0	19	21	12	7	0	2	0	0	0	0	0	0	0	0	61
	14:00	0	0	0	21	26	7	2	3	1	0	0	0	0	0	0	0	0	60
	15:00	0	0	0	5	18	11	10	12	2	0	0	0	0	0	0	0	0	58
	16:00	0	0	1	1	5	9	12	9	1	1	0	0	0	0	0	0	0	39
	17:00	0	0	0	2	0	2	12	11	3	1	2	0	0	0	0	0	0	33
	18:00	0	0	0	0	2	2	14	16	6	2	0	0	0	0	0	0	0	42
	19:00	0	0	0	0	4	4	5	5	6	0	0	0	0	0	0	0	0	24
	20:00	0	0	0	0	3	3	9	3	4	0	0	0	0	0	0	0	0	22
	21:00	0	0	0	0	1	3	6	2	1	1	0	0	0	0	0	0	0	14
	22:00	0	0	1	0	1	1	6	2	4	0	0	0	0	0	0	0	0	15
	23:00	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3
Daily Total #1		0	1	12	132	229	129	99	78	38	6	3	0	0	0	0	0	0	727
Percent		0%	0%	2%	18%	31%	18%	14%	11%	5%	1%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent		0%	0%	1%	19%	51%	69%	82%	93%	98%	99%	100%							
Average Hour		0	0	0	5	9	5	4	3	1	0	0	0	0	0	0	0	0	30

Avg Speed: 41.6mph 10% Speed: 32.3mph 50% Speed: 39.7mph 85% Speed: 51.1mph

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

Bennet Road
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********** Lane 1 Special Speed Study **********

Date	Time	#1 0-19.9	#2 20-24.9	#3 25-29.9	#4 30-34.9	#5 35-39.9	#6 40-44.9	#7 45-49.9	#8 50-54.9	#9 55-59.9	#10 60-64.9	#11 65-69.9	#12 70-74.9	#13 75-79.9	#14 80-84.9	#15 85-89.9	#16 Other	Error	Total
07/01/98	00:00	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	4
Wed	01:00	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
	02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	05:00	0	0	0	0	0	4	2	1	0	0	0	0	0	0	0	0	0	7
	06:00	0	0	0	0	7	10	4	4	1	0	0	0	0	0	0	0	0	26
	07:00	0	0	1	15	15	2	3	0	1	0	0	0	0	0	0	0	0	37
Daily Total #1		0	0	2	15	22	17	10	8	4	0	0	0	0	0	0	0	0	78
Percent		0%	0%	3%	19%	28%	22%	13%	10%	5%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent		0%	0%	2%	21%	50%	71%	84%	94%	100%									
Average Hour		0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0	9

Avg Speed: 41.1mph 10% Speed: 32.4mph 50% Speed: 38.1mph 85% Speed: 47.8mph

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

NB

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Special Speed Study Final Report

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Site ID : 1BEN49
Info 1 : BENNET ROAD
Info 2 : S OF STROEDAHL

Data Starts : 16:00 on 06/29/98
Data Ends : 08:00 on 07/01/98
Adj. Factor : 1.000%

****

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16		
		0-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85-			
Date	Time	19.9	24.9	29.9	34.9	39.9	44.9	49.9	54.9	59.9	64.9	69.9	74.9	79.9	84.9	89.9	Other	Error	Total
Grand Total #1		1	2	16	151	272	190	167	138	63	11	3	0	0	0	0	0	0	1014
	Percent	0%	0%	2%	15%	27%	19%	16%	14%	6%	1%	0%	0%	0%	0%	0%	0%	0%	
Cum.	Percent	0%	0%	1%	16%	43%	62%	78%	92%	98%	99%	100%							
Average	Hour	0	0	0	3	6	4	4	3	1	0	0	0	0	0	0	0	0	25

ADT: 1690 Avg Speed: 42.7mph 10% Speed: 32.7mph 50% Speed: 41.9mph 85% Speed: 52.3mph

7/01/98
0:11:22

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

*** Special Speed Study (#203) ***

Site ID : 1BEN47
Info 1 : BENNET ROAD
Info 2 : S OF STOREDAHL

Data Starts : 16:15 on 06/29/98
Data Ends : 08:00 on 07/01/98
Adj. Factor : 1.000%

Lane #1 Info : SOUTHBOUND
Modes : AXLE,SPEED
Sensors : Axle-Axle

Sensor Spacing: 16.0'

Lane 1 Special Speed Study

Date Time	#1 0-19.9	#2 20-24.9	#3 25-29.9	#4 30-34.9	#5 35-39.9	#6 40-44.9	#7 45-49.9	#8 50-54.9	#9 55-59.9	#10 60-64.9	#11 65-69.9	#12 70-74.9	#13 75-79.9	#14 80-84.9	#15 85-89.9	#16 Other	Error	Total
06/29/98 17:00	0	0	0	2	2	4	10	4	1	0	0	0	0	0	0	0	0	23
Mon 18:00	0	0	1	0	1	7	8	8	1	1	0	0	0	0	0	0	0	27
19:00	0	2	1	0	2	5	4	3	2	0	0	0	0	0	0	0	0	19
20:00	0	0	2	1	2	4	3	3	0	0	0	0	0	0	0	0	0	15
21:00	0	0	1	1	6	3	2	2	0	0	0	0	0	0	0	0	0	15
22:00	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Daily Total #1	0	2	5	4	14	24	31	22	4	1	0	0	0	0	0	0	0	107
Percent	0%	2%	5%	4%	13%	22%	29%	21%	4%	1%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent	0%	1%	6%	10%	23%	45%	74%	95%	99%	100%								
Average Hour	0	0	0	0	2	3	4	3	0	0	0	0	0	0	0	0	0	15

Avg Speed: 44.6mph 10% Speed: 32.6mph 50% Speed: 46.6mph 85% Speed: 52.6mph

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

Bennet Rd.
South of Stoneduh/
SB

********** Lane 1 Special Speed Study **********

Date	Time	#1 0-19.9	#2 20-24.9	#3 25-29.9	#4 30-34.9	#5 35-39.9	#6 40-44.9	#7 45-49.9	#8 50-54.9	#9 55-59.9	#10 60-64.9	#11 65-69.9	#12 70-74.9	#13 75-79.9	#14 80-84.9	#15 85-89.9	#16 Other	Error	Total
)6/30/98	00:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Tue	01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	04:00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
	05:00	0	0	1	0	1	1	6	5	1	1	0	0	0	0	0	0	0	16
	06:00	0	4	5	1	2	3	9	7	2	0	0	0	0	0	0	0	0	33
	07:00	0	6	22	9	4	5	12	4	0	0	0	0	0	0	0	0	0	62
	08:00	0	4	22	15	2	2	8	4	1	0	0	0	0	0	0	0	0	58
	09:00	0	4	24	20	5	3	5	2	0	0	0	0	0	0	0	0	0	63
	10:00	0	6	22	18	6	13	7	5	1	0	0	0	0	0	0	0	0	78
	11:00	0	4	28	13	4	6	5	4	1	0	0	0	0	0	0	0	0	65
	12:00	0	3	11	7	5	7	6	4	1	0	0	0	0	0	0	0	0	44
	13:00	1	6	23	14	5	3	5	3	0	0	0	0	0	0	0	0	0	60
	14:00	1	7	16	19	4	0	4	6	0	0	0	0	0	0	0	0	0	57
	15:00	0	5	6	12	7	14	9	4	0	0	0	0	0	0	0	0	0	57
	16:00	0	1	3	3	4	6	6	2	1	0	0	0	0	0	0	0	0	26
	17:00	0	0	0	0	5	2	6	2	0	0	0	0	0	0	0	0	0	15
	18:00	0	0	1	1	3	9	11	2	1	1	0	0	0	0	0	0	0	29
	19:00	0	0	0	3	4	3	9	2	2	0	0	0	0	0	0	0	0	23
	20:00	0	0	1	3	3	2	3	1	0	0	0	0	0	0	0	0	0	13
	21:00	0	1	0	1	2	3	3	0	0	0	0	0	0	0	0	0	0	10
	22:00	0	0	0	0	1	1	3	1	0	0	0	0	0	0	0	0	0	6
	23:00	0	1	0	0	0	3	1	1	0	1	0	0	0	0	0	0	0	7
Daily Total #1		2	52	185	139	67	86	122	59	11	3	0	0	0	0	0	0	0	726
Percent		0%	7%	25%	19%	9%	12%	17%	8%	2%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent		0%	7%	32%	52%	61%	73%	89%	98%	99%	100%								
Average Hour		0	2	7	5	2	3	5	2	0	0	0	0	0	0	0	0	0	30

Avg Speed: 36.7mph 10% Speed: 25.5mph 50% Speed: 34.2mph 85% Speed: 48.3mph

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

Bennet Road
South of Shoreham
SB

********** Lane 1 Special Speed Study **********

Date	Time	#1 0- 19.9	#2 20- 24.9	#3 25- 29.9	#4 30- 34.9	#5 35- 39.9	#6 40- 44.9	#7 45- 49.9	#8 50- 54.9	#9 55- 59.9	#10 60- 64.9	#11 65- 69.9	#12 70- 74.9	#13 75- 79.9	#14 80- 84.9	#15 85- 89.9	#16 Other	Error	Total
7/01/98	00:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Wed	01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	03:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
	04:00	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
	05:00	0	0	0	1	2	2	6	1	2	0	0	0	0	0	0	0	0	14
	06:00	0	3	7	1	1	5	11	3	4	0	0	0	0	0	0	0	0	35
	07:00	0	9	12	8	1	5	13	2	0	0	0	0	0	0	0	0	0	50
Daily Total #1		0	12	20	11	4	14	33	6	6	0	0	0	0	0	0	0	0	106
Percent		0%	11%	19%	10%	4%	13%	31%	6%	6%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent		0%	11%	30%	40%	44%	57%	88%	94%	100%									
Average Hour		0	1	2	1	0	1	4	0	0	0	0	0	0	0	0	0	0	13

Avg Speed: 39.1mph 10% Speed: 22.7mph 50% Speed: 42.5mph 85% Speed: 48.2mph

TRAFFIC SMITHY
1225 NW MURRAY BLVD
SUITE 111
PORTLAND, OREGON 97229
(503) 641-6333 FAX (503) 643-8866

SB

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Special Speed Study Final Report

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Site ID : 1BEN47
Info 1 : BENNET ROAD
Info 2 : S OF STOREDAHL

Data Starts : 16:15 on 06/29/98
Data Ends : 08:00 on 07/01/98
Adj. Factor : 1.000%

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Data	Time	#1 0- 19.9	#2 20- 24.9	#3 25- 29.9	#4 30- 34.9	#5 35- 39.9	#6 40- 44.9	#7 45- 49.9	#8 50- 54.9	#9 55- 59.9	#10 60- 64.9	#11 65- 69.9	#12 70- 74.9	#13 75- 79.9	#14 80- 84.9	#15 85- 89.9	#16 Other	Error	Total
Grand Total #1		2	66	210	154	85	124	186	87	21	4	0	0	0	0	0	0	0	939
	Percent	0%	7%	22%	16%	9%	13%	20%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	
	Cum. Percent	0%	7%	29%	46%	55%	68%	88%	97%	99%	100%								
	Average Hour	0	1	5	3	2	3	4	2	0	0	0	0	0	0	0	0	0	24

ADT: 1525 Avg Speed: 37.8mph 10% Speed: 25.8mph 50% Speed: 37.3mph 85% Speed: 49.1mph

Appendix B

Level of Service Descriptions

UNSIGNALIZED INTERSECTIONS (Two-Way Stop Controlled)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The *1994 Highway Capacity Manual* describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Unsignalized intersection levels of service are described in the following table.

Level of Service Definitions
Unsignalized Intersections

Level of Service	Expected Delay	Avg Total Delay (Sec/Veh)
A	Little or no delay	≤ 5.0
B	Short traffic delay	5.1-10.0
C	Average traffic delays	10.1-20.0
D	Long traffic delays	20.1-30.0
E	Very long traffic delays	30.1-45.0
F	Extreme delays potentially affecting other traffic movements in the intersection	> 45

Source: *Highway Capacity Manual*, Special Report 209 (Third Edition), Transportation Research Board Washington, D.C., 1994.

Appendix C

Level of Service Calculations

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Daybreak Mine
Existing Traffic Volumes
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
2 Moore/Bevin/284th	A	0.4	0.000	A	0.4	0.000	+ 0.000 V/C
9 61st/Bennet/Main Access	A	2.0	0.000	A	2.0	0.000	+ 0.000 V/C
11 Daybreak/Hyatt/269th	A	1.5	0.000	A	1.5	0.000	+ 0.000 V/C
13 82nd Ave/279th	A	0.9	0.000	A	0.9	0.000	+ 0.000 V/C

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Daybreak Mine
Existing Traffic Volumes
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Moore/Bevin/284th

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1	0 0	0	0	1	0 0	0	0	0	0 0	1	0	0	0 0
Volume Module:																
Base Vol:	0	9	0		0	19	0		0	0	0		4	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	9	0		0	19	0		0	0	0		4	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.73	0.73	0.73		0.73	0.73	0.73		0.73	0.73	0.73		0.73	0.73	0.73	
PHF Volume:	0	12	0		0	26	0		0	0	0		5	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Final Vol.:	0	12	0		0	26	0		0	0	0		5	0	0	
Adjusted Volume Module:																
Grade:		0%				0%				0%				-4%		
% Cycle/Cars:	0.00	0.84			xxxx	xxxx			xxxx	xxxx			xxxx	xxxx		
% Truck/Comb:	0.16	0.00			xxxx	xxxx			xxxx	xxxx			xxxx	xxxx		
PCE Adj:	xxxx	1.00	1.00		1.10	1.00	1.00		1.10	1.10	1.10		0.90	0.90	0.90	
Cycl/Car PCE:	0.50	1.00			xxxx	xxxx			xxxx	xxxx			xxxx	xxxx		
Trck/Cmb PCE:	1.50	2.00			xxxx	xxxx			xxxx	xxxx			xxxx	xxxx		
Adj Vol.:	0	12	0		0	26	0		0	0	0		5	0	0	
Critical Gap Module:																
MoveUp Time:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.4	xxxx	xxxxx	
Critical Gp:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.5	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		38	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1006	xxxx	xxxxx	
Adj Cap:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1.00	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1006	xxxx	xxxxx	
Level Of Service Module:																
Stopped Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.6	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*		*	*	*		A	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Shrd StpDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:		0.0				0.0				0.0				3.6		

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Daybreak Nine
Existing Traffic Volumes
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #13 82nd Ave/279th

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 0 1 0			1 0 0 0 0		
Volume Module:												
Base Vol:	3	17	4	2	136	1	0	5	21	16	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	17	4	2	136	1	0	5	21	16	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	3	18	4	2	145	1	0	5	23	17	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	18	4	2	146	1	0	5	23	17	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	0.00	0.89		0.00	0.96		xxxx	xxxx		0.00	0.98	
% Truck/Comb:	0.11	0.00		0.04	0.00		xxxx	xxxx		0.02	0.00	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.10	1.10	1.10	xxxx	xxxx	xxxx
Cycl/Car PCE:	0.50	1.00		0.50	1.00		xxxx	xxxx		0.50	1.00	
Trck/Cmb PCE:	1.50	2.00		1.50	2.00		xxxx	xxxx		1.50	2.00	
Adj Vol.:	3	18	4	2	146	1	0	6	25	17	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxxx	3.3	2.6	3.4	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx	xxxxx	6.0	5.5	6.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	147	xxxx	xxxxx	23	xxxx	xxxxx	xxxx	175	147	187	xxxx	xxxxx
Potent Cap.:	1458	xxxx	xxxxx	1672	xxxx	xxxxx	xxxx	883	1167	826	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	0.97	xxxx	xxxxx
Move Cap.:	1458	xxxx	xxxxx	1672	xxxx	xxxxx	xxxx	880	1167	802	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.5	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.1	3.1	4.6	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1098	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.4	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	A	*	*	*
ApproachDel:	0.3			0.0			3.3			4.6		

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Daybreak Mine
Existing Traffic Volumes
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #9 61st/Bennet/Main Access

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	0		0	0	0	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	11	23	0		0	14	4		6	0	24		0	0	0									
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00									
Initial Bse:	11	23	0		0	14	4		6	0	24		0	0	0									
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00									
PHF Adj:	0.81	0.81	0.81		0.81	0.81	0.81		0.81	0.81	0.81		0.81	0.81	0.81									
PHF Volume:	14	28	0		0	17	5		7	0	30		0	0	0									
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0									
Final Vol.:	14	28	0		0	17	5		7	0	30		0	0	0									
Adjusted Volume Module:																								
Grade:	0%						0%						0%											
Cycle/Cars:	0.00	0.85			xxxx	xxxx			0.00	0.68			xxxx	xxxx										
Truck/Comb:	0.15	0.00			xxxx	xxxx			0.32	0.00			xxxx	xxxx										
PCE Adj:	xxxx	1.00	1.00		1.10	1.00	1.00		xxxx	xxxx	xxxxx		1.10	1.10	1.10									
Cycl/Car PCE:	0.50	1.00			xxxx	xxxx			0.50	1.00			xxxx	xxxx										
Trck/Cmb PCE:	1.50	2.00			xxxx	xxxx			1.50	2.00			xxxx	xxxx										
Adj Vol.:	15	28	0		0	17	5		9	0	34		0	0	0									
Critical Gap Module:																								
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx		2.6	xxxxx	xxxx	xxxxx											
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx		5.5	xxxxx	xxxx	xxxxx											
Capacity Module:																								
Cnflict Vol:	22	xxxx	xxxxx	xxxx	xxxx	xxxxx	62	xxxx		20	xxxx	xxxx	xxxxx											
Potent Cap.:	1673	xxxx	xxxxx	xxxx	xxxx	xxxxx	975	xxxx		1353	xxxx	xxxx	xxxxx											
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.99	xxxx		1.00	xxxx	xxxx	xxxxx											
Move Cap.:	1673	xxxx	xxxxx	xxxx	xxxx	xxxxx	967	xxxx		1353	xxxx	xxxx	xxxxx											
Level Of Service Module:																								
Stopped Del:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.8	xxxx		2.7	xxxxx	xxxx	xxxxx											
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT						LT - LTR - RT						LT - LTR - RT						LT - LTR - RT					
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1253	xxxxx	xxxx	xxxx	xxxxx												
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.0	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*												
ApproachDel:	0.7			0.0			2.9			0.0														

Daybreak Mine
Existing Traffic Volumes
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #11 Daybreak/Hyatt/269th

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	0		0	0	0	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	45	252	0		0	87	1		1	0	22		0	0	0									
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00									
Initial Bse:	45	252	0		0	87	1		1	0	22		0	0	0									
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00									
PHF Adj:	0.86	0.86	0.86		0.86	0.86	0.86		0.86	0.86	0.86		0.86	0.86	0.86									
PHF Volume:	52	293	0		0	101	1		1	0	26		0	0	0									
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0									
Final Vol.:	52	293	0		0	101	1		1	0	26		0	0	0									
Adjusted Volume Module:																								
Grade:	+4%						-4%						0%						0%					
Cycle/Cars:	0.00	0.96			0.00	0.91			0.00	0.85			xxxx	xxxx										
Truck/Comb:	0.04	0.00			0.09	0.00			0.15	0.00			xxxx	xxxx										
PCE Adj:	xxxx	1.00	1.00		xxxx	1.00	1.00		xxxx	xxxx	xxxxx		1.10	1.10	1.10									
Cycl/Car PCE:	0.70	1.40			0.30	0.80			0.50	1.00			xxxx	xxxx										
Trck/Cmb PCE:	3.00	6.00			1.00	1.20			1.50	2.00			xxxx	xxxx										
Adj Vol.:	77	293	0		0	101	1		1	0	28		0	0	0									
Critical Gap Module:																								
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx		2.6	xxxxx	xxxx	xxxxx											
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx		5.5	xxxxx	xxxx	xxxxx											
Capacity Module:																								
Cnflict Vol:	102	xxxx	xxxxx	xxxx	xxxx	xxxxx	447	xxxx		102	xxxx	xxxx	xxxxx											
Potent Cap.:	1532	xxxx	xxxxx	xxxx	xxxx	xxxxx	583	xxxx		1230	xxxx	xxxx	xxxxx											
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.94	xxxx		1.00	xxxx	xxxx	xxxxx											
Move Cap.:	1532	xxxx	xxxxx	xxxx	xxxx	xxxxx	548	xxxx		1230	xxxx	xxxx	xxxxx											
Level Of Service Module:																								
Stopped Del:	2.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.6	xxxx		3.0	xxxxx	xxxx	xxxxx											
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT						LT - LTR - RT						LT - LTR - RT						LT - LTR - RT					
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1167	xxxxx	xxxx	xxxx	xxxxx												
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.2	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*												
ApproachDel:	0.5			0.0			3.1			0.0														

Daybreak Mine
Existing Plus Project Traffic Volumes - with conveyor
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
2 Moore/Bevin/284th	A	0.4	0.000	A	0.4	0.000	+ 0.000 V/C
9 61st/Bennet/Main Access	A	2.0	0.000	A	2.1	0.000	+ 0.000 V/C
11 Daybreak/Hyatt/269th	A	1.5	0.000	A	1.7	0.000	+ 0.000 V/C
13 82nd Ave/279th	A	0.9	0.000	A	0.9	0.000	+ 0.000 V/C

Daybreak Mine
Existing Plus Project Traffic Volumes - with conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Moore/Bevin/284th

****

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0	0	0 0 1	0	0	0 0 0	0	0	1 0 0	0	0
Volume Module:												
Base Vol:	0	9	0	0	19	0	0	0	0	4	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	9	0	0	19	0	0	0	0	4	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	2	0	0	0	0	0	0	0
Initial Fut:	0	12	0	0	21	0	0	0	0	4	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
PHF Volume:	0	16	0	0	29	0	0	0	0	5	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	16	0	0	29	0	0	0	0	5	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			-4%		
% Cycle/Cars:	0.00	0.84		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	0.16	0.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	0.90	0.90	0.90
Cycl/Car PCE:	0.50	1.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	16	0	0	29	0	0	0	0	5	0	0
Critical Gap Module:												
MoveUp Time:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	3.4	xxxx	xxxx
Critical Gp:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	6.5	xxxx	xxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	45	xxxx	xxxx
Potent Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	997	xxxx	xxxx
Adj Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1.00	xxxx	xxxx
Move Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	997	xxxx	xxxx
Level Of Service Module:												
Stopped Del:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	3.6	xxxx	xxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd StpDel:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			0.0			0.0			3.6		

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Daybreak Mine
Existing Plus Project Traffic Volumes - with conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 82nd Ave/279th

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 0 1 0			1 0 0 0 0		
Volume Module:												
Base Vol:	3	17	4	2	136	1	0	5	21	16	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	17	4	2	136	1	0	5	21	16	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	1	0	0	1	0	0	0	0	0	0	0
Initial Fut:	3	18	4	2	137	1	0	5	21	16	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	3	19	4	2	147	1	0	5	23	17	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	19	4	2	147	1	0	5	23	17	0	0
Adjusted Volume Module:												
%rade:	0%			0%			0%			0%		
% Cycle/Cars:	0.00	0.89		0.00	0.96		xxxx	xxxx		0.00	0.98	
% Truck/Comb:	0.11	0.00		0.04	0.00		xxxx	xxxx		0.02	0.00	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.10	1.10	1.10	xxxx	xxxx	xxxx
Cycl/Car PCE:	0.50	1.00		0.50	1.00		xxxx	xxxx		0.50	1.00	
Trck/Cmb PCE:	1.50	2.00		1.50	2.00		xxxx	xxxx		1.50	2.00	
Adj Vol.:	3	19	4	2	147	1	0	6	25	17	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxxx	3.3	2.6	3.4	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx	xxxxx	6.0	5.5	6.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	148	xxxx	xxxxx	24	xxxx	xxxxx	xxxx	177	148	189	xxxx	xxxxx
Potent Cap.:	1457	xxxx	xxxxx	1670	xxxx	xxxxx	xxxx	881	1165	823	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	0.97	xxxx	xxxxx
Move Cap.:	1457	xxxx	xxxxx	1670	xxxx	xxxxx	xxxx	878	1165	799	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.5	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.1	3.2	4.6	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1096	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.4	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	A	*	*	*
ApproachDel:	0.3			0.0			3.3			4.6		

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Daybreak Mine
Existing Plus Project Traffic Volumes - with conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #9 61st/Bennet/Main Access

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 0	0 0
Volume Module:												
Base Vol:	11	23	0	0	14	4	6	0	24	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	23	0	0	14	4	6	0	24	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	3	0	0	0	0	1	1	0	7	0	0	0
Initial Fut:	14	23	0	0	14	5	7	0	31	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	17	28	0	0	17	6	9	0	38	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	17	28	0	0	17	6	9	0	38	0	0	0
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	0.00	0.85		xxxx	xxxx		0.00	0.68		xxxx	xxxx	
% Truck/Comb:	0.15	0.00		xxxx	xxxx		0.32	0.00		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	1.10	1.00	1.00	xxxx	xxxx	xxxx	1.10	1.10	1.10
Cycl/Car PCE:	0.50	1.00		xxxx	xxxx		0.50	1.00		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		xxxx	xxxx		1.50	2.00		xxxx	xxxx	
Adj Vol.:	19	28	0	0	17	6	10	0	44	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	23	xxxx	xxxxx	xxxx	xxxx	xxxxx	66	xxxx	20	xxxx	xxxx	xxxxx
Potent Cap.:	1671	xxxx	xxxxx	xxxx	xxxx	xxxxx	970	xxxx	1352	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1671	xxxx	xxxxx	xxxx	xxxx	xxxxx	959	xxxx	1352	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.8	xxxx	2.7	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1257	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.0	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:		0.9			0.0			2.9			0.0	

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Daybreak Mine
Existing Plus Project Traffic Volumes - with conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Daybreak/Hyatt/269th

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 0	0 0
Volume Module:												
Base Vol:	45	252	0	0	87	1	1	0	22	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	252	0	0	87	1	1	0	22	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	3	0	0	0	0	0	1	0	6	0	0	0
Initial Fut:	48	252	0	0	87	1	2	0	28	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	56	293	0	0	101	1	2	0	33	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	56	293	0	0	101	1	2	0	33	0	0	0
Adjusted Volume Module:												
Grade:		+4%			-4%			0%			0%	
% Cycle/Cars:	0.00	0.96		0.00	0.91		0.00	0.85		xxxx	xxxx	
% Truck/Comb:	0.04	0.00		0.09	0.00		0.15	0.00		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	xxxxx	1.10	1.10	1.10
Cycl/Car PCE:	0.70	1.40		0.30	0.80		0.50	1.00		xxxx	xxxx	
Trck/Cmb PCE:	3.00	6.00		1.00	1.20		1.50	2.00		xxxx	xxxx	
Adj Vol.:	82	293	0	0	101	1	3	0	35	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	102	xxxx	xxxxx	xxxx	xxxx	xxxxx	451	xxxx	102	xxxx	xxxx	xxxxx
Potent Cap.:	1532	xxxx	xxxxx	xxxx	xxxx	xxxxx	581	xxxx	1230	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.94	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1532	xxxx	xxxxx	xxxx	xxxx	xxxxx	543	xxxx	1230	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.7	xxxx	3.0	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1134	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.3	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:		0.5			0.0			3.3			0.0	

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Daybreak Mine
Existing Plus Project Traffic Volumes - no conveyor
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
2 Moore/Bevin/284th	A	0.4	0.000	A	0.4	0.000	+ 0.000 V/C
9 61st/Bennet/Main Access	A	2.0	0.000	A	2.0	0.000	+ 0.000 V/C
11 Daybreak/Hyatt/269th	A	1.5	0.000	A	1.5	0.000	+ 0.000 V/C
13 82nd Ave/279th	A	0.9	0.000	A	0.9	0.000	+ 0.000 V/C

Daybreak Mine
Existing Plus Project Traffic Volumes - no conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Moore/Bevin/284th

****

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0	0	0 0 1	0	0	0 0 0	0	0	1 0 0	0	0
Volume Module:												
Base Vol:	0	9	0	0	19	0	0	0	0	4	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	9	0	0	19	0	0	0	0	4	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	9	0	0	19	0	0	0	0	4	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
PHF Volume:	0	12	0	0	26	0	0	0	0	5	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	12	0	0	26	0	0	0	0	5	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			-4%		
% Cycle/Cars:	0.00	0.84		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	0.16	0.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	0.90	0.90	0.90
Cycl/Car PCE:	0.50	1.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	12	0	0	26	0	0	0	0	5	0	0
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	38	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1006	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1006	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			0.0			0.0			3.6		

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Daybreak Mine
Existing Plus Project Traffic Volumes - no conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 82nd Ave/279th

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 0 1 0			1 0 0 0 0		
Volume Module:												
Base Vol:	3	17	4	2	136	1	0	5	21	16	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	17	4	2	136	1	0	5	21	16	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	17	4	2	136	1	0	5	21	16	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	3	18	4	2	146	1	0	5	23	17	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	18	4	2	146	1	0	5	23	17	0	0
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	0.00	0.89		0.00	0.96		xxxx	xxxx		0.00	0.98	
% Truck/Comb:	0.11	0.00		0.04	0.00		xxxx	xxxx		0.02	0.00	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.10	1.10	1.10	xxxx	xxxx	xxxx
Cycl/Car PCE:	0.50	1.00		0.50	1.00		xxxx	xxxx		0.50	1.00	
Truck/Comb PCE:	1.50	2.00		1.50	2.00		xxxx	xxxx		1.50	2.00	
Adj Vol.:	3	18	4	2	146	1	0	6	25	17	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxxx	3.3	2.6	3.4	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx	xxxxx	6.0	5.5	6.5	xxxx	xxxxx
Capacity Module:												
Inflict Vol:	147	xxxx	xxxxx	23	xxxx	xxxxx	xxxx	175	147	187	xxxx	xxxxx
Potent Cap.:	1458	xxxx	xxxxx	1672	xxxx	xxxxx	xxxx	883	1167	826	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	0.97	xxxx	xxxxx
Move Cap.:	1458	xxxx	xxxxx	1672	xxxx	xxxxx	xxxx	880	1167	802	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.5	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.1	3.1	4.6	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1098	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.4	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	A	*	*	*
ApproachDel:		0.3			0.0			3.3			4.6	

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Daybreak Mine
Existing Plus Project Traffic Volumes - no conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #9 61st/Bennet/Main Access

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	0		0	0	0	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	11	23	0				0	14	4				6	0	24				0	0	0			
Growth Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Initial Bse:	11	23	0				0	14	4				6	0	24				0	0	0			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	4	0	0				0	0	7				10	0	9				0	0	0			
Initial Fut:	15	23	0				0	14	11				16	0	33				0	0	0			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.81	0.81	0.81				0.81	0.81	0.81				0.81	0.81	0.81				0.81	0.81	0.81			
PHF Volume:	19	28	0				0	17	14				20	0	41				0	0	0			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	19	28	0				0	17	14				20	0	41				0	0	0			
Adjusted Volume Module:																								
Grade:		0%						0%						0%						0%				
% Cycle/Cars:	0.00	0.85					xxxx	xxxx					0.00	0.68					xxxx	xxxx				
% Truck/Comb:	0.15	0.00					xxxx	xxxx					0.32	0.00					xxxx	xxxx				
PCE Adj:	xxxx	1.00	1.00	1.10	1.00	1.00	xxxx	xxxx	xxxx	1.10	1.10	1.10												
Cycl/Car PCE:	0.50	1.00					xxxx	xxxx					0.50	1.00					xxxx	xxxx				
Trck/Cmb PCE:	1.50	2.00					xxxx	xxxx					1.50	2.00					xxxx	xxxx				
Adj Vol.:	20	28	0				0	17	14				23	0	47				0	0	0			
Critical Gap Module:																								
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.4	xxxx		2.6	xxxxx	xxxx	xxxxx					
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.5	xxxx		5.5	xxxxx	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	31	xxxx	xxxxx	xxxx	xxxx	xxxxx							71	xxxx		24	xxxx	xxxx	xxxxx					
Potent Cap.:	1657	xxxx	xxxxx	xxxx	xxxx	xxxxx							963	xxxx		1346	xxxx	xxxx	xxxxx					
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx							0.99	xxxx		1.00	xxxx	xxxx	xxxxx					
Move Cap.:	1657	xxxx	xxxxx	xxxx	xxxx	xxxxx							951	xxxx		1346	xxxx	xxxx	xxxxx					
Level Of Service Module:																								
Stopped Del:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.9	xxxx		2.8	xxxxx	xxxx	xxxxx					
LOS by Move:	A	*	*	*	*	*							*	*		*	*	*	*					
Movement:	LT - LTR - RT																							
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx	1186	xxxxx	xxxx	xxxx	xxxxx						
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxxx	3.2	xxxxx	xxxxx	xxxx	xxxxx						
Shared LOS:	*	*	*	*	*	*							*	A	*	*	*	*						
ApproachDel:		0.9						0.0						3.1				0.0						

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Daybreak Mine
Existing Plus Project Traffic Volumes - no conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Daybreak/Hyatt/269th

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	0		0	0	0	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	45	252	0				0	87	1				1	0	22				0	0	0			
Growth Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Initial Bse:	45	252	0				0	87	1				1	0	22				0	0	0			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	4	0	0				0	0	0				1	0	8				0	0	0			
Initial Fut:	49	252	0				0	87	1				2	0	30				0	0	0			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.86	0.86	0.86				0.86	0.86	0.86				0.86	0.86	0.86				0.86	0.86	0.86			
PHF Volume:	57	293	0				0	101	1				2	0	35				0	0	0			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	57	293	0				0	101	1				2	0	35				0	0	0			
Adjusted Volume Module:																								
Grade:		+4%						-4%						0%						0%				
% Cycle/Cars:	0.00	0.96					0.00	0.91					0.00	0.85					xxxx	xxxx				
% Truck/Comb:	0.04	0.00					0.09	0.00					0.15	0.00					xxxx	xxxx				
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	xxxxx	1.10	1.10	1.10												
Cycl/Car PCE:	0.70	1.40					0.30	0.80					0.50	1.00					xxxx	xxxx				
Trck/Cmb PCE:	3.00	6.00					1.00	1.20					1.50	2.00					xxxx	xxxx				
Adj Vol.:	83	293	0				0	101	1				3	0	38				0	0	0			
Critical Gap Module:																								
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.4	xxxx		2.6	xxxxx	xxxx	xxxxx					
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.5	xxxx		5.5	xxxxx	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	102	xxxx	xxxxx	xxxx	xxxx	xxxxx							452	xxxx		102	xxxx	xxxx	xxxxx					
Potent Cap.:	1532	xxxx	xxxxx	xxxx	xxxx	xxxxx							580	xxxx		1230	xxxx	xxxx	xxxxx					
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx							0.93	xxxx		1.00	xxxx	xxxx	xxxxx					
Move Cap.:	1532	xxxx	xxxxx	xxxx	xxxx	xxxxx							542	xxxx		1230	xxxx	xxxx	xxxxx					
Level Of Service Module:																								
Stopped Del:	2.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.7	xxxx		3.0	xxxxx	xxxx	xxxxx					
LOS by Move:	A	*	*	*	*	*							*	*		*	*	*	*					
Movement:	LT - LTR - RT																							
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx	1139	xxxxx	xxxx	xxxx	xxxxx						
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx							xxxx	3.3	xxxxx	xxxxx	xxxx	xxxxx						
Shared LOS:	*	*	*	*	*	*							*	A	*	*	*	*						
ApproachDel:		0.5						0.0						3.2				0.0						

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Daybreak Mine
Future (1999) Base Traffic Volumes
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 2 Moore/Bevin/284th	A	0.4	0.000	A	0.4	0.000	+ 0.000 V/C
# 9 61st/Bennet/Main Access	A	2.0	0.000	A	2.0	0.000	+ 0.000 V/C
# 11 Daybreak/Hyatt/269th	A	1.6	0.000	A	1.6	0.000	+ 0.000 V/C
# 13 82nd Ave/279th	A	0.9	0.000	A	0.9	0.000	+ 0.000 V/C

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Daybreak Mine
Future (1999) Base Traffic Volumes
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Moore/Bevin/284th

****

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0	0	0 0 1	0	0	0 0 0	0	0	1 0	0	0 0
Volume Module:												
Base Vol:	0	9	0	0	19	0	0	0	0	4	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	9	0	0	19	0	0	0	0	4	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	9	0	0	19	0	0	0	0	4	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
PHF Volume:	0	13	0	0	27	0	0	0	0	6	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	13	0	0	27	0	0	0	0	6	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			-4%		
% Cycle/Cars:	0.00	0.84		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	0.16	0.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	0.90	0.90	0.90
Cycl/Car PCE:	0.50	1.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	13	0	0	27	0	0	0	0	5	0	0
Critical Gap Module:												
MoveUp Time:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	3.4	xxxx	xxxx
Critical Gp:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	6.5	xxxx	xxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	39	xxxx	xxxx
Potent Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1005	xxxx	xxxx
Adj Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1.00	xxxx	xxxx
Move Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1005	xxxx	xxxx
Level Of Service Module:												
Stopped Del:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	3.6	xxxx	xxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd StpDel:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			0.0			0.0			3.6		

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Daybreak Mine
Future (1999) Base Traffic Volumes
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 82nd Ave/279th

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 0 1 0			1 0 0 0 0		
Volume Module:												
Base Vol:	3	17	4	2	136	1	0	5	21	16	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	3	17	4	2	139	1	0	5	21	16	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	17	4	2	139	1	0	5	21	16	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	3	19	4	2	149	1	0	5	23	18	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	19	4	2	149	1	0	5	23	18	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	0.00	0.89		0.00	0.96		xxxx	xxxx		0.00	0.98	
% Truck/Comb:	0.11	0.00		0.04	0.00		xxxx	xxxx		0.02	0.00	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.10	1.10	1.10	xxxx	xxxx	xxxxx
Cycl/Car PCE:	0.50	1.00		0.50	1.00		xxxx	xxxx		0.50	1.00	
Trck/Cmb PCE:	1.50	2.00		1.50	2.00		xxxx	xxxx		1.50	2.00	
Adj Vol.:	3	19	4	2	149	1	0	6	25	18	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxxx	3.3	2.6	3.4	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx	xxxxx	6.0	5.5	6.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	150	xxxx	xxxxx	23	xxxx	xxxxx	xxxx	178	150	190	xxxx	xxxxx
Potent Cap.:	1454	xxxx	xxxxx	1672	xxxx	xxxxx	xxxx	880	1163	822	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	0.97	xxxx	xxxxx
Move Cap.:	1454	xxxx	xxxxx	1672	xxxx	xxxxx	xxxx	876	1163	797	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.5	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.1	3.2	4.6	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1094	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.4	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	A	*	*	*
ApproachDel:	0.3			0.0			3.3			4.6		

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Daybreak Mine
Future (1999) Base Traffic Volumes
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #9 61st/Bennet/Main Access
****
Average Delay (sec/veh): 1.5 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 0	0 0 0
Volume Module:												
Base Vol:	11	23	0	0	14	4	6	0	24	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	11	23	0	0	14	4	6	0	24	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	23	0	0	14	4	6	0	24	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	14	29	0	0	18	5	8	0	30	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	14	29	0	0	18	5	8	0	30	0	0	0
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	0.00	0.85		xxxx	xxxx		0.00	0.68		xxxx	xxxx	
% Truck/Comb:	0.15	0.00		xxxx	xxxx		0.32	0.00		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	1.10	1.00	1.00	xxxx	xxxx	xxxx	1.10	1.10	1.10
Cycl/Car PCE:	0.50	1.00		xxxx	xxxx		0.50	1.00		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		xxxx	xxxx		1.50	2.00		xxxx	xxxx	
Adj Vol.:	15	29	0	0	18	5	9	0	35	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	23	xxxx	xxxxx	xxxx	xxxx	xxxxx	63	xxxx	20	xxxx	xxxx	xxxxx
Potent Cap.:	1672	xxxx	xxxxx	xxxx	xxxx	xxxxx	974	xxxx	1352	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1672	xxxx	xxxxx	xxxx	xxxx	xxxxx	965	xxxx	1352	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.8	xxxx	2.7	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1252	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.0	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:		0.7			0.0			2.9			0.0	

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Daybreak Mine
Future (1999) Base Traffic Volumes
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #11 Daybreak/Hyatt/269th
****
Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 0	0 0 0
Volume Module:												
Base Vol:	45	252	0	0	87	1	1	0	22	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	46	257	0	0	89	1	1	0	22	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	257	0	0	89	1	1	0	22	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	53	299	0	0	103	1	1	0	26	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	53	299	0	0	103	1	1	0	26	0	0	0
Adjusted Volume Module:												
Grade:		+4%			-4%			0%			0%	
% Cycle/Cars:	0.00	0.96		0.00	0.91		0.00	0.85		xxxx	xxxx	
% Truck/Comb:	0.04	0.00		0.09	0.00		0.15	0.00		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	xxxx	1.10	1.10	1.10
Cycl/Car PCE:	0.70	1.40		0.30	0.80		0.50	1.00		xxxx	xxxx	
Trck/Cmb PCE:	3.00	6.00		1.00	1.20		1.50	2.00		xxxx	xxxx	
Adj Vol.:	78	299	0	0	103	1	1	0	28	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	104	xxxx	xxxxx	xxxx	xxxx	xxxxx	456	xxxx	104	xxxx	xxxx	xxxxx
Potent Cap.:	1529	xxxx	xxxxx	xxxx	xxxx	xxxxx	576	xxxx	1227	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.94	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1529	xxxx	xxxxx	xxxx	xxxx	xxxxx	541	xxxx	1227	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.7	xxxx	3.0	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1163	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:		0.5			0.0			3.2			0.0	

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Daybreak Mine
Future (1999) Plus Project Traffic Volumes - with conveyor
AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in V/C
# 2 Moore/Bevin/284th	A	0.4	0.000	A	0.4	0.000	+ 0.000
# 9 61st/Bennet/Main Access	A	2.0	0.000	A	2.1	0.000	+ 0.000
# 11 Daybreak/Hyatt/269th	A	1.6	0.000	A	1.7	0.000	+ 0.000
# 13 82nd Ave/279th	A	0.9	0.000	A	0.9	0.000	+ 0.000

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Daybreak Mine
Future (1999) Plus Project Traffic Volumes - with conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Moore/Bevin/284th

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0	0	0 0 1	0	0	0 0 0	0	0	1 0	0	0
Volume Module:												
Base Vol:	0	9	0	0	19	0	0	0	0	4	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	9	0	0	19	0	0	0	0	4	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	3	0	0	2	0	0	0	0	0	0	0
Initial Fut:	0	12	0	0	21	0	0	0	0	4	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
PHF Volume:	0	17	0	0	29	0	0	0	0	6	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	17	0	0	29	0	0	0	0	6	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			-4%		
% Cycle/Cars:	0.00	0.84		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	0.16	0.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	xxxx 1.00	1.00		1.10	1.00	1.00	1.10	1.10	1.10	0.90	0.90	0.90
Cycl/Car PCE:	0.50	1.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	17	0	0	29	0	0	0	0	5	0	0
Critical Gap Module:												
MoveUp Time:	xxxx xxxx	xxxx	xxxx	xxxx xxxx	xxxx	xxxx	xxxx xxxx	xxxx	xxxx	3.4	xxxx	xxxx
Critical Gp:	xxxx xxxx	xxxx	xxxx	xxxx xxxx	xxxx	xxxx	xxxx xxxx	xxxx	xxxx	6.5	xxxx	xxxx
Capacity Module:												
Cnflict Vol:	xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx		46	xxxx	xxxx
Potent Cap.:	xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx		996	xxxx	xxxx
Adj Cap:	xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx		1.00	xxxx	xxxx
Move Cap.:	xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx		996	xxxx	xxxx
Level Of Service Module:												
Stopped Del:	xxxx xxxx	xxxx	xxxx	xxxx xxxx	xxxx	xxxx	xxxx xxxx	xxxx	xxxx	3.6	xxxx	xxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR	-	RT	LT - LTR	-	RT	LT - LTR	-	RT	LT - LTR	-	RT
Shared Cap.:	xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx	
Shrd StpDel:	xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx	
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			0.0			0.0			3.6		

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Daybreak Mine
Future (1999) Plus Project Traffic Volumes - with conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 82nd Ave/279th

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 0 1 0			1 0 0 0 0		
Volume Module:												
Base Vol:	3	17	4	2	136	1	0	5	21	16	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	3	17	4	2	139	1	0	5	21	16	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	1	0	0	1	0	0	0	0	0	0	0
Initial Fut:	3	18	4	2	140	1	0	5	21	16	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	3	20	4	2	150	1	0	5	23	18	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	20	4	2	150	1	0	5	23	18	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	0.00	0.89		0.00	0.96		xxxx	xxxx		0.00	0.98	
% Truck/Comb:	0.11	0.00		0.04	0.00		xxxx	xxxx		0.02	0.00	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.10	1.10	1.10	xxxx	xxxx	xxxxx
Cycl/Car PCE:	0.50	1.00		0.50	1.00		xxxx	xxxx		0.50	1.00	
Trck/Cmb PCE:	1.50	2.00		1.50	2.00		xxxx	xxxx		1.50	2.00	
Adj Vol.:	3	20	4	2	150	1	0	6	25	18	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxxx	3.3	2.6	3.4	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx	xxxxx	6.0	5.5	6.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	151	xxxx	xxxxx	24	xxxx	xxxxx	xxxx	180	151	192	xxxx	xxxxx
Potent Cap.:	1452	xxxx	xxxxx	1670	xxxx	xxxxx	xxxx	877	1161	819	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	0.97	xxxx	xxxxx
Move Cap.:	1452	xxxx	xxxxx	1670	xxxx	xxxxx	xxxx	874	1161	795	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.5	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.1	3.2	4.6	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1092	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.4	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	A	*	*	*
ApproachDel:	0.3			0.0			3.4			4.6		

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Daybreak Mine
Future (1999)Plus Project Traffic Volumes - no conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #9 61st/Bennet/Main Access

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0 0	0	1 0	0 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	43	9	0	0	26	2	3	0	39	0	0	0
Growth Adj:	1.00	1.02	1.00	1.00	1.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	9	0	0	27	2	3	0	39	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	-1	0	0	0	0	16	13	0	0	0	0	0
Initial Fut:	42	9	0	0	27	18	16	0	39	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	47	10	0	0	30	20	18	0	44	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	47	10	0	0	30	20	18	0	44	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	0.00	0.19		0.00	0.94		0.00	0.06		xxxx	xxxx	
% Truck/Comb:	0.81	0.00		0.06	0.00		0.94	0.00		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	xxxxx	1.10	1.10	1.10
Cycl/Car PCE:	0.50	1.00		0.50	1.00		0.50	1.00		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		1.50	2.00		1.50	2.00		xxxx	xxxx	
Adj Vol.:	66	10	0	0	30	20	26	0	64	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	50	xxxx	xxxxx	xxxx	xxxx	xxxxx	97	xxxx	40	xxxx	xxxx	xxxxx
Potent Cap.:	1623	xxxx	xxxxx	xxxx	xxxx	xxxxx	930	xxxx	1322	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.96	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1623	xxxx	xxxxx	xxxx	xxxx	xxxxx	892	xxxx	1322	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	2.8	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1159	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.3	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	2.0			0.0			3.2			0.0		

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Daybreak Mine
Future (1999)Plus Project Traffic Volumes - no conveyor
AM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #11 Daybreak/Hyatt/269th

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0 0	0	1 0	0 0	1! 0	0	0 0	0	0 0
Volume Module:												
Base Vol:	43	34	0	0	201	2	2	0	87	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	44	35	0	0	205	2	2	0	89	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	-1	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	35	0	0	205	2	2	0	89	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	47	38	0	0	225	2	2	0	98	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	47	38	0	0	225	2	2	0	98	0	0	0
Adjusted Volume Module:												
Grade:	+4%			-4%			0%			0%		
% Cycle/Cars:	0.00	0.51		0.00	0.96		0.00	0.45		xxxx	xxxx	
% Truck/Comb:	0.49	0.00		0.04	0.00		0.55	0.00		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	xxxxx	1.10	1.10	1.10
Cycl/Car PCE:	0.70	1.40		0.30	0.80		0.50	1.00		xxxx	xxxx	
Trck/Cmb PCE:	3.00	6.00		1.00	1.20		1.50	2.00		xxxx	xxxx	
Adj Vol.:	103	38	0	0	225	2	3	0	124	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	228	xxxx	xxxxx	xxxx	xxxx	xxxxx	312	xxxx	226	xxxx	xxxx	xxxxx
Potent Cap.:	1336	xxxx	xxxxx	xxxx	xxxx	xxxxx	699	xxxx	1063	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.92	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1336	xxxx	xxxxx	xxxx	xxxx	xxxxx	644	xxxx	1063	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	5.6	xxxx	3.7	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1048	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	2.0			0.0			3.8			0.0		

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Daybreak Mine
Future (1999) Plus Project Traffic Volumes - with conveyor
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 2 Moore/Bevin/284th	A	0.3	0.000	A	0.3	0.000	+ 0.000 V/C
# 9 61st/Bennet/Main Access	A	1.4	0.000	A	1.6	0.000	+ 0.000 V/C
# 11 Daybreak/Hyatt/269th	A	0.6	0.000	A	0.6	0.000	+ 0.000 V/C
# 13 82nd Ave/279th	B	0.7	0.000	B	0.7	0.000	+ 0.000 V/C

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Daybreak Mine
Future (1999) Plus Project Traffic Volumes - with conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 Moore/Bevin/284th

****

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	29	5	3	12	0	0	0	0	1	0	3
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	30	5	3	12	0	0	0	0	1	0	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	1	0	0	1	0	0	0	0	0	0	0
Initial Fut:	0	31	5	3	13	0	0	0	0	1	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
PHF Volume:	0	39	7	4	17	0	0	0	0	1	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	39	7	4	17	0	0	0	0	1	0	4
Adjusted Volume Module:												
Grade:	0%			0%			0%			-4%		
% Cycle/Cars:	0.00	0.97		0.00	0.97		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	0.03	0.00		0.03	0.00		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.10	1.10	1.10	0.90	0.90	0.90
Cycl/Car PCE:	0.50	1.00		0.50	1.00		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		1.50	2.00		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	39	7	4	17	0	0	0	0	1	0	4
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6
Critical Gp:	xxxxx	xxxx	xxxxx	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	46	xxxx	xxxxx	xxxx	xxxx	xxxxx	63	xxxx	42
Potent Cap.:	xxxx	xxxx	xxxxx	1630	xxxx	xxxxx	xxxx	xxxx	xxxxx	973	xxxx	1318
Adj Cap:	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	1.00
Move Cap.:	xxxx	xxxx	xxxxx	1630	xxxx	xxxxx	xxxx	xxxx	xxxxx	971	xxxx	1318
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.7	xxxx	2.7
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1210	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	0.0			0.4			0.0			3.0		

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Daybreak Mine
Future (1999) Plus Project Traffic Volumes - with conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 82nd Ave/279th

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 1 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	28	185	23	0	56	2	1	3	11	11	5	5
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	29	189	23	0	57	2	1	3	11	11	5	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	1	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	190	23	0	57	2	1	3	11	11	5	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PHF Volume:	34	223	28	0	67	2	1	4	13	13	6	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	34	223	28	0	67	2	1	4	13	13	6	6
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	0.00	0.98		0.00	0.92		0.00	0.97		xxxx	xxxx	
% Truck/Comb:	0.02	0.00		0.08	0.00		0.03	0.00		xxxx	xxxx	
PCE Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	xxxxx	1.10	1.10	1.10
Cycl/Car PCE:	0.50	1.00		0.50	1.00		0.50	1.00		xxxx	xxxx	
Trck/Cmb PCE:	1.50	2.00		1.50	2.00		1.50	2.00		xxxx	xxxx	
Adj Vol.:	34	223	28	0	67	2	1	4	13	15	7	7
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	3.3	2.6	3.4	3.3	2.6
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	6.0	5.5	6.5	6.0	5.5
Capacity Module:												
Cnflict Vol:	70	xxxx	xxxxx	xxxx	xxxx	xxxxx	345	353	68	347	340	237
Potent Cap.:	1588	xxxx	xxxxx	xxxx	xxxx	xxxxx	668	712	1278	666	723	1050
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.97	0.97	1.00	0.97	0.97	1.00
Move Cap.:	1588	xxxx	xxxxx	xxxx	xxxx	xxxxx	647	694	1278	644	705	1050
Level Of Service Module:												
Stopped Del:	2.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	5.6	5.2	2.8	5.7	5.1	3.4
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1037	xxxxx	xxxx	726	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.5	xxxxx	xxxxx	5.1	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	B	*
ApproachDel:		0.3			0.0			3.5			5.0	

Traffix 6.8.1511 (c) 1995 Dowling Assoc. Licensed to DKS Associates, Portland

Daybreak Mine
Future (1999)Plus Project Traffic Volumes - no conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #9 61st/Bennet/Main Access

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	0		0	0	0	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	11	23	0				0	14	4				6	0	24				0	0	0			
Growth Adj:	1.00	1.02	1.00				1.00	1.02	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Initial Bse:	11	23	0				0	14	4				6	0	24				0	0	0			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	4	0	0				0	0	7				10	0	9				0	0	0			
Initial Fut:	15	23	0				0	14	11				16	0	33				0	0	0			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.81	0.81	0.81				0.81	0.81	0.81				0.81	0.81	0.81				0.81	0.81	0.81			
PHF Volume:	19	29	0				0	18	14				20	0	41				0	0	0			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	19	29	0				0	18	14				20	0	41				0	0	0			
Adjusted Volume Module:																								
Grade:		0%						0%						0%						0%				
% Cycle/Cars:	0.00	0.85					xxxx	xxxx					0.00	0.68					xxxx	xxxx				
% Truck/Comb:	0.15	0.00					xxxx	xxxx					0.32	0.00					xxxx	xxxx				
PCE Adj:	xxxx	1.00	1.00				1.10	1.00	1.00				xxxx	xxxx	xxxxx				1.10	1.10	1.10			
Cycl/Car PCE:	0.50	1.00					xxxx	xxxx					0.50	1.00					xxxx	xxxx				
Trck/Cmb PCE:	1.50	2.00					xxxx	xxxx					1.50	2.00					xxxx	xxxx				
Adj Vol.:	20	29	0				0	18	14				23	0	47				0	0	0			
Critical Gap Module:																								
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.4	xxxx		2.6	xxxxx	xxxx	xxxxx					
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.5	xxxx		5.5	xxxxx	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	31	xxxx	xxxxx	xxxx	xxxx	xxxxx							72	xxxx		24	xxxx	xxxx	xxxxx					
Potent Cap.:	1657	xxxx	xxxxx	xxxx	xxxx	xxxxx							962	xxxx		1346	xxxx	xxxx	xxxxx					
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx							0.99	xxxx		1.00	xxxx	xxxx	xxxxx					
Move Cap.:	1657	xxxx	xxxxx	xxxx	xxxx	xxxxx							950	xxxx		1346	xxxx	xxxx	xxxxx					
Level Of Service Module:																								
Stopped Del:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.9	xxxx		2.8	xxxxx	xxxx	xxxxx					
LOS by Move:	A	*	*	*	*	*							*	*		*	*	*	*					
Movement:	LT - LTR - RT			LT - LTR - RT									LT - LTR - RT			LT - LTR - RT								
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx	1185	xxxxx	xxxx	xxxx	xxxxx						
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx						3.2	xxxxx		xxxxx	xxxx	xxxxx						
Shared LOS:	*	*	*	*	*	*							A	*		*	*	*						
ApproachDel:		0.9			0.0								3.1				0.0							

Daybreak Mine
Future (1999)Plus Project Traffic Volumes - no conveyor
PM Peak Hour

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

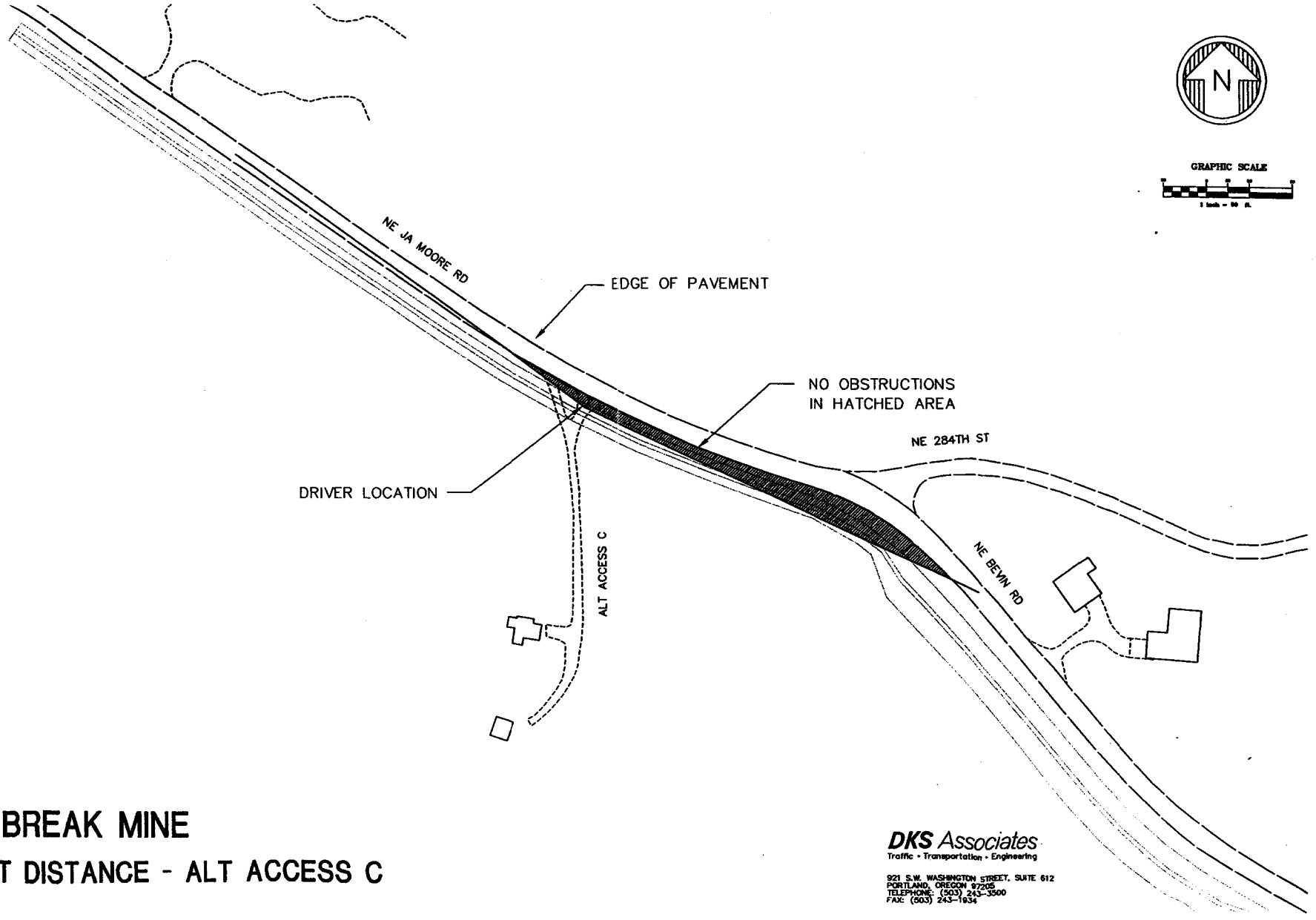
Intersection #11 Daybreak/Hyatt/269th

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	0		0	0	0	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	45	252	0				0	87	1				1	0	22				0	0	0			
Growth Adj:	1.02	1.02	1.02				1.02	1.02	1.02				1.02	1.02	1.02				1.02	1.02	1.02			
Initial Bse:	46	257	0				0	89	1				1	0	22				0	0	0			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	4	0	0				0	0	0				1	0	8				0	0	0			
Initial Fut:	50	257	0				0	89	1				2	0	30				0	0	0			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.86	0.86	0.86				0.86	0.86	0.86				0.86	0.86	0.86				0.86	0.86	0.86			
PHF Volume:	58	299	0				0	103	1				2	0	35				0	0	0			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	58	299	0				0	103	1				2	0	35				0	0	0			
Adjusted Volume Module:																								
Grade:		+4%						-4%						0%						0%				
% Cycle/Cars:	0.00	0.96					0.00	0.91					0.00	0.85					xxxx	xxxx				
% Truck/Comb:	0.04	0.00					0.09	0.00					0.15	0.00					xxxx	xxxx				
PCE Adj:	xxxx	1.00	1.00				xxxx	1.00	1.00				xxxx	xxxx	xxxxx				1.10	1.10	1.10			
Cycl/Car PCE:	0.70	1.40					0.30	0.80					0.50	1.00					xxxx	xxxx				
Trck/Cmb PCE:	3.00	6.00					1.00	1.20					1.50	2.00					xxxx	xxxx				
Adj Vol.:	85	299	0				0	103	1				3	0	38				0	0	0			
Critical Gap Module:																								
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.4	xxxx		2.6	xxxxx	xxxx	xxxxx					
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.5	xxxx		5.5	xxxxx	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	104	xxxx	xxxxx	xxxx	xxxx	xxxxx							461	xxxx		104	xxxx	xxxx	xxxxx					
Potent Cap.:	1529	xxxx	xxxxx	xxxx	xxxx	xxxxx							573	xxxx		1227	xxxx	xxxx	xxxxx					
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx							0.93	xxxx		1.00	xxxx	xxxx	xxxxx					
Move Cap.:	1529	xxxx	xxxxx	xxxx	xxxx	xxxxx							534	xxxx		1227	xxxx	xxxx	xxxxx					
Level Of Service Module:																								
Stopped Del:	2.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8	xxxx		3.0	xxxxx	xxxx	xxxxx					
LOS by Move:	A	*	*	*	*	*							*	*		*	*	*	*					
Movement:	LT - LTR - RT			LT - LTR - RT									LT - LTR - RT			LT - LTR - RT								
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							xxxx	1135	xxxxx	xxxx	xxxx	xxxxx						
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx						3.3	xxxxx		xxxxx	xxxx	xxxxx						
Shared LOS:	*	*	*	*	*	*							A	*		*	*	*						
ApproachDel:		0.5			0.0								3.3				0.0							

Appendix D

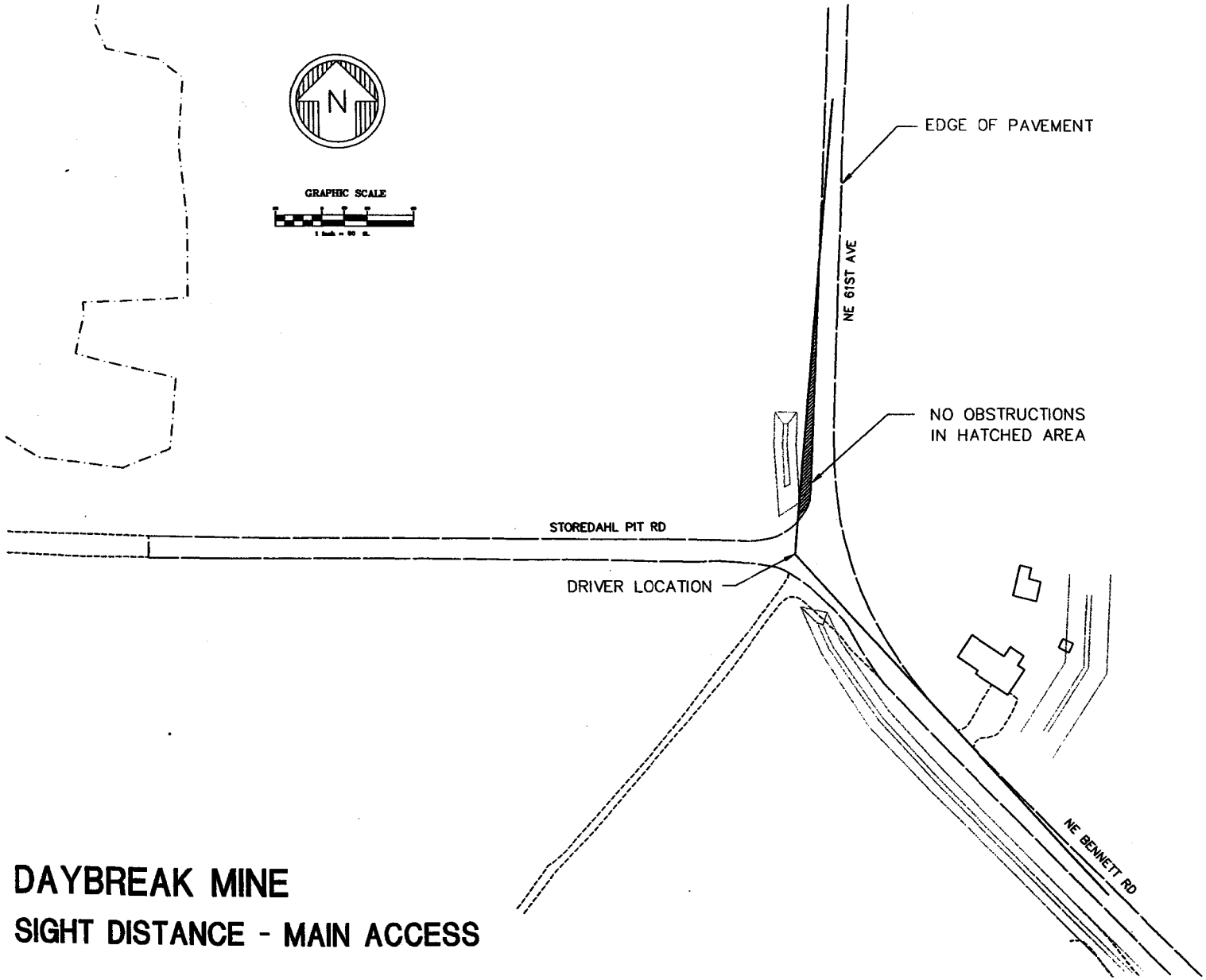
Access Sight Distance



DAYBREAK MINE

SIGHT DISTANCE - ALT ACCESS C

DKS Associates
Traffic • Transportation • Engineering
921 S.W. WASHINGTON STREET, SUITE 612
PORTLAND, OREGON 97205
TELEPHONE: (503) 243-3500
FAX: (503) 243-1934

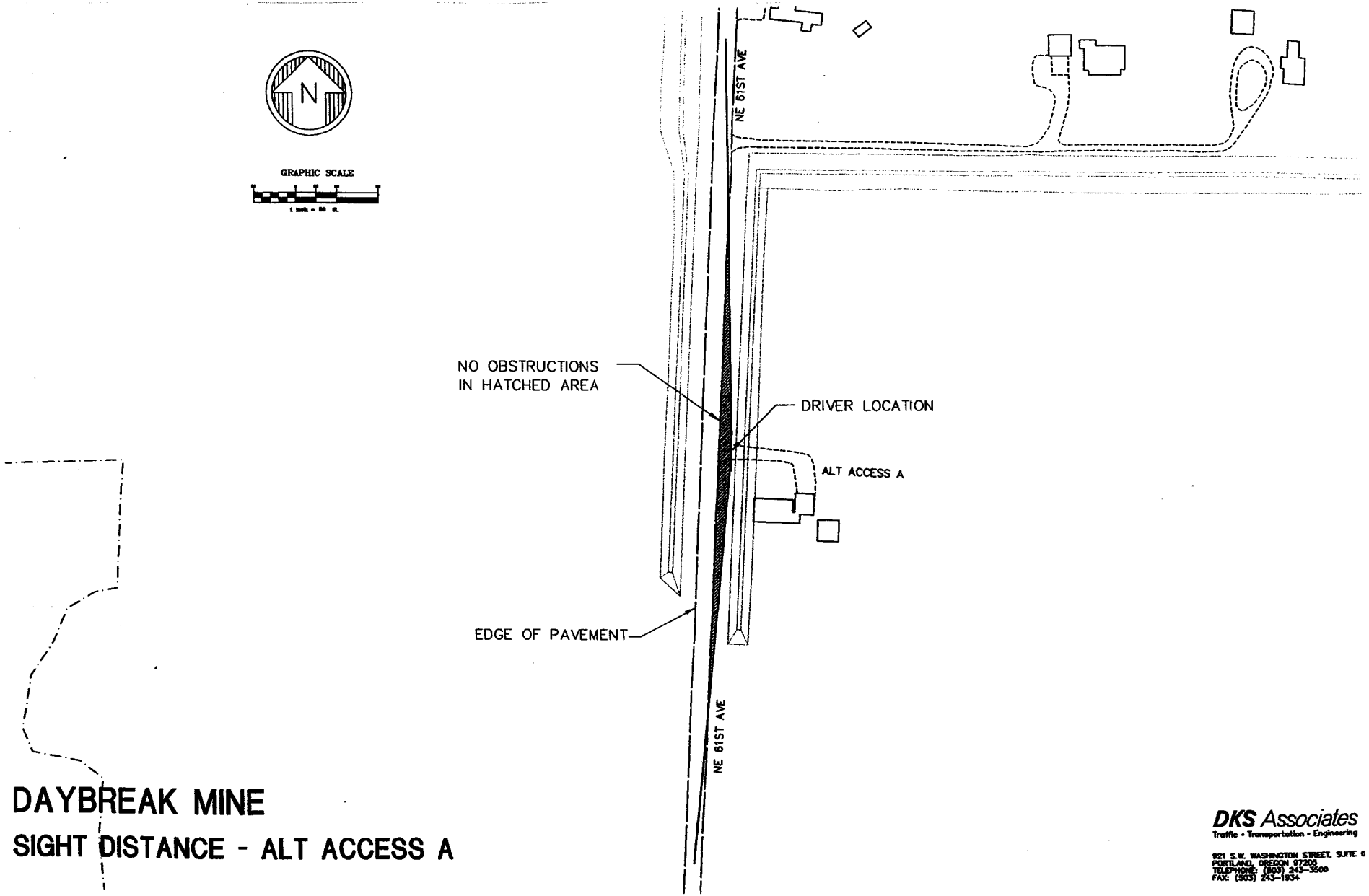


DAYBREAK MINE

SIGHT DISTANCE - MAIN ACCESS

DKS *Associates*
Traffic • Transportation • Engineering

921 S.W. WASHINGTON STREET, SUITE 6
PORTLAND, OREGON 97205
TELEPHONE: (503) 243-3500
FAX: (503) 243-1934

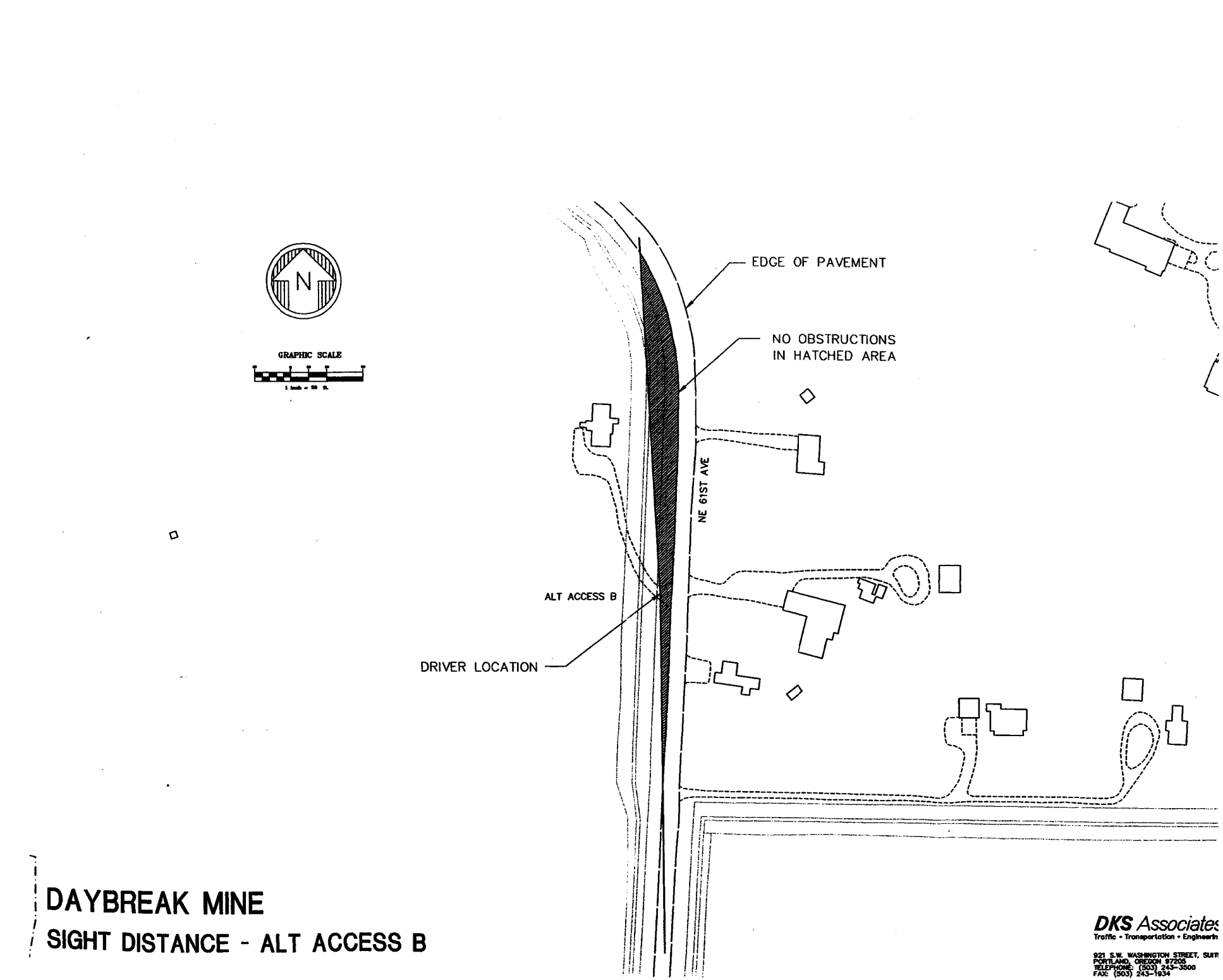


DAYBREAK MINE

SIGHT DISTANCE - ALT ACCESS A

DKS Associates
Traffic • Transportation • Engineering

921 S.W. WASHINGTON STREET, SUITE 6
PORTLAND, OREGON 97205
TELEPHONE: (503) 243-3500
FAX: (503) 243-1934



DAYBREAK MINE

SIGHT DISTANCE - ALT ACCESS B

DKS Associates
Traffic • Transportation • Engineerin
921 S.W. WASHINGTON STREET, SUIT
PORTLAND, OREGON 97205
TELEPHONE: (503) 243-3500
FAX: (503) 243-1934

Appendix E

Accident Rate Calculations

Accident Rate Calculations

ADT Estimations

Use 24-hour tube count at Bennet Road Near Storedahl Pit Road to determine relationship between pm peak volumes and daily volumes:

Bennet Road s/o Storedahl

PM Peak Hr Volume	115	
Daily Volume	1453	
Percentage	7.91%	Apply this percentage to all PM peak counts to estimate ADT at each intersection

Intersection	PM pk vol	ADT	Accidents*	Acc Rate**
NE JA Moore Rd/NE 284th St	53	670	1	0.82
NE 61st Ave/Bennet Rd	82	1036	0	0.00
NE Hyatt Rd/NE Daybreak Rd	408	5155	0	0.00
NE 82nd Ave/NE 279th St	330	4169	3	0.39

* Accidents from 1992-1996 (5 years). Obtained from Clark County Public Works.

** Accident rate calculation per ITE Traffic Engineering Handbook

Appendix F

Trip Generation Data/Calculations

Daybreak Mine

Existing Trip Generation

TRUCKS			**EMPLOYEES**	
Export (tons/day)	4,000		AM trips in	0
Export (30-ton loads/day)	113		AM trips out	0
Export (8-yd loads/day)	58		PM trips in	3
Export (loads/day)	**171**	174	PM trips out	10
Import (tons/day)	5,000			
Import (loads/day)	**167**	132		
Total (loads/day)	**338**	306		

ACTUAL TRAFFIC COUNTS		**ADJUSTED TRAFFIC COUNTS**	
AM in	41	AM in	45
AM out	38	AM out	42
PM in	14	PM in	15
PM out	27	PM out	30

*Proposed trip generation numbers were based on the numbers shown above and factored up to represent proposed levels of operation.

ECOLOGICAL LANDSCAPE SERVICES, INC.

July 21, 1998

Mr. Brian Copeland, P.E.
DKS Associates
921 SW Washington Street
Suite 612
Portland, OR 97205

Re: Daybreak Mine

Dear Brian:

This letter revises the information presented in my June 19 letter regarding traffic and transportation data and projections associated with the Daybreak Mining and Habitat Enhancement Project.

- Presently, export volumes average approximately 4,000 tons of aggregate per day between June and November and 1,500 tons per day the remainder of the year. Import volumes presently average approximately 4,500 tons per day during 8-hour shifts and a fleet of 6 trucks dedicated to round trip hauls; peak day volumes average approximately 5,000 tons which requires a 10-hour shift and typically uses 7 trucks. Future imports, as previously stated, will be reduced by approximately 50 percent. All hauling conducted by Storedahl is with 30-ton trucks.

- Activities to be conducted on site include mining, processing, sorting and stockpiling sand and gravel. The preferred method of moving raw materials from an active pit to the processing area continues to be by conveyor. However, failure to acquire the necessary permits to extend the conveyor system would necessitate hauling the raw material to the processing area by truck via NE 61st Avenue. Average daily volume of hauled raw material would be approximately 2,500 tons and peak days would see approximately 4,000 tons moved. All raw material hauling would be by 30-ton trucks. Access to the county road would be from existing driveways only. On-site truck haul routes would be limited to that stretch of county road from the active driveway access to Storedahl Pit Road.

- Cash sales presently account for approximately 15 percent of total export volume. The average load is approximately 8 tons per transaction. Future cash sales will be restricted to operating hours after 9:00 a.m.

I hope this information clarifies the intent of the project. If you need additional information or have any questions, please call me.

Very truly yours,

Skip Urling, AICP

Cc: Kimball Storedahl
Randy Sweet

1339 Commerce Ave., Suite 308 • Longview, Washington 98632 • (360) 578-1371 • Fax (360) 414-9305 • E-mail: ecoland@tdn.com

ECOLOGICAL LANDSCAPE SERVICES, INC.

June 19, 1998

Mr. Brian K. Copeland, P.E.
DKS Associates
921 SW Washington Street
Suite 612
Portland, OR 97205

Re: Daybreak Mine Transportation Study Data Needs

Dear Brian:

The following information is in response to your June 16 fax outlining the data needs for the transportation study to support the development permits for the Daybreak Mine and Habitat Enhancement Project.

1. Once permitted, the projected volume of material imported to the site for processing is 2,500 tons per day. This material will be brought to the Daybreak site only between March and November, and will be transported in trucks with a 30-ton capacity. The projected export is 5,000 tons per average annual day. Peak operations will result in 8,000 tons per day being exported between June and October, and 3,000 tons per day between November and May. Operations will occur Monday through Saturday year round.

2. Presently, the average export is 4,000 tons per day between June and November and 1,500 tons per day the remainder of the year. Import volumes are ~~between~~ 5,000 ~~and 6,000 tons~~ per day between March and November. All import and export hauling is with 30-ton trucks.

3. The best we can do on historic activity is volume of material sold from Daybreak.

Year	Tons Sold
1988	152,101
1989	37,952
1990	562,508
1991	557,338
1992	134,301
1993	80,023
1994	58,846
1995	57,096
1996	76,457
1997	367,682
1998	184,593 (thru May)

4. Projected Employees:

Monday-Friday, 7:00 am to 5:30 pm: 10 employees

1339 Commerce Ave., Suite 308 • Longview, Washington 98632 • (360) 578-1371 • Fax (360) 414-9305 • E-mail: ecoland@tdn.com

Saturday	6:00 pm to 2:30 am:	3 employees
	7:00 am to 3:30 pm:	3 employees
	6:00 am to 2:30 pm:	2 employees

5. Current Employees: Same as above.

6. Hours of Operation: See Item 4.

7. On-site activities: Activities to be conducted on site include mining, processing, sorting and stockpiling sand and gravel. The preferred alternative for delivering the mined material to the processing area is by conveyor. However, you should analyze the effects of trucking the material from the pits to the processing area via J.A. Moore Road /NE 61st Avenue. Average ~~daily volumes will be 2,500~~ tons transported in 30-ton trucks. All on-site haul traffic would be routed through four access points in series, as the area of active mining shifts. Please see the attached site plan for approximate access points.

8. Typical truck routes are highlighted on the attached vicinity maps, with haul distributions noted.

9. The only access to the processing area is Storedahl Pit Road. ✓

10. Other issues.

    1. Cash sales account for about 15 percent of the total volume leaving the site. The size of the haul trucks for these private sales vary.
    2. The residents along Manley Road, which is the route to the Tebo pit, the current source of imported raw rock, have serious concerns about the truck traffic associated with that import hauling. Stress that permitting the Daybreak site will reduce Storedahl's import hauling from the Tebo pit by 50 percent.

If you need additional data or have any questions, please call me at your earliest convenience.

Very truly yours,

Skip Urling, AICP

Enclosures

APPENDIX B

Noise Impact Assessment for the Expansion of the Daybreak Mine Excavation Area

Clark County Washington

To: J.L. Storedahl & Sons
2233 Talley Way
Kelso, WA 98626

**NOISE IMPACT ASSESSMENT FOR THE
EXPANSION OF THE DAYBREAK MINE EXCAVATION AREA
CLARK COUNTY, WASHINGTON**

DSA File: 159916

Attn: Kimball Storedahl

Prepared By: Daly-Standlee & Associates, Inc.
Kerrie G. Standlee, P.E.
August 22, 2000

TABLE OF CONTENTS

1.0 INTRODUCTION

J.L. Storedahl & Sons, Inc. proposes to extend the excavation area at the Daybreak mine located on the East Fork of the Lewis River in Clark County, Washington (see Figure 1). The Clark County Department of Community Development determined that an Environmental Impact Statement (EIS) is required for the proposed action and in preparation for writing of the EIS, J.L. Storedahl & Sons, Inc. asked Daly-Standlee & Associates, Inc. (DSA) to perform a Noise Impact Assessment for the planned expansion.

This report presents the information used by Daly-Standlee & Associates, Inc. in the noise impact assessment. The information includes a description of the proposed extraction operations at the mining site, a discussion relative to the noise descriptors used in the analysis, a discussion about the existing environment at noise sensitive properties around the mining site and a discussion about the future noise environment expected at noise sensitive properties around the mining site. Finally, the report presents a comparison of the expected future acoustical environment at noise sensitive properties around the mining operations with appropriate standards set by governmental agencies and to the existing environment to determine noise impacts.

2.0 EXECUTIVE SUMMARY

J.L. Storedahl and Sons, Inc. proposes to extend the excavation area at the Daybreak mine site located on the East Fork of the Lewis River. Currently, raw aggregate materials are trucked to the Daybreak site and crushed and screened at the plant located on the site and crushed materials generated at the Daybreak site are trucked off-site for distribution to the public. J.L.Storedahl & Sons, Inc. plans to continue crushing aggregate materials at the Daybreak site and the company proposes to extend the aggregate extraction area at the Daybreak site to supply the crushing and screening plant.

Noise impacts were assessed at 17 residential properties located around the mining site. The 17 properties were considered to represent the noise sensitive properties where there was the most potential for noise impacts from the proposed expansion. Ambient sound levels were measured at 9 locations near several of the residential properties to provide a baseline for the impact analysis. Measurements were made of the sound levels radiating from the equipment expected to operate at the facility. The equipment sound data was included in computer models to predict the future sound levels at the 17 residential properties around the mining site. The predicted future sound levels were compared with the existing sound levels at the residential properties and with appropriate government criteria to determine noise impacts.

The results of the noise study indicate the crushing operation at the Daybreak pit will generate no additional impact on any of the residential properties around the site. There are no plans to move the crushing operation from its historic location, and there should be no change in the crushing operation noise reaching any residence.

The results of the noise study indicate the extension of the mining area at the Daybreak pit will generate no significant impacts on the residences south of the East Fork Lewis River because the properties are to far from the noise sources. However, the results indicate there will be significant

1.0 INTRODUCTION

J.L. Storedahl & Sons, Inc. proposes to extend the excavation area at the Daybreak mine located on the East Fork of the Lewis River in Clark County, Washington (see Figure 1). The Clark County Department of Community Development determined that an Environmental Impact Statement (EIS) is required for the proposed action and in preparation for writing of the EIS, J.L. Storedahl & Sons, Inc. asked Daly-Standlee & Associates, Inc. (DSA) to perform a Noise Impact Assessment for the planned expansion.

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Noise impacts were assessed at 17 residential properties located around the mining site. The 17 properties were considered to represent the noise sensitive properties where there was the most potential for noise impacts from the proposed expansion. Ambient sound levels were measured at 9 locations near several of the residential properties to provide a baseline for the impact analysis. Measurements were made of the sound levels radiating from the equipment expected to operate at the facility. The equipment sound data was included in computer models to predict the future sound levels at the 17 residential properties around the mining site. The predicted future sound levels were compared with the existing sound levels at the residential properties and with appropriate government criteria to determine noise impacts.

The results of the noise study indicate the crushing operation at the Daybreak pit will generate no additional impact on any of the residential properties around the site. There are no plans to move the crushing operation from its historic location, and there should be no change in the crushing operation noise reaching any residence.

The results of the noise study indicate the extension of the mining area at the Daybreak pit will generate no significant impacts on the residences south of the East Fork Lewis River because the properties are to far from the noise sources. However, the results indicate there will be significant

noise impacts at various properties north of the East Fork Lewis River if noise mitigation measures are not included in the mining plan. The results indicate that during Phases 1 through 4 (shown in Figure 2), the loudest hour statistical noise levels at residential properties at or near modeling locations 1, 2, 5, 6, 7, 8, 9, 10 and 11 will exceed the WAC noise limits if mitigation measures are not implemented. Noise levels at the 9 locations will also exceed the Clark County SEPA criteria if mitigation measures are not used during mining in the different phases.

Mitigation measures which can be used to reduce noise impacts to "insignificant" at all residences around the site include the construction of berms or engineered barriers at the locations shown in Figure 3 and at the heights and lengths presented in Table 5 of this report. The times when the berms or barriers are required are discussed in detail in Section 11.0 of the report.

Truck traffic to and from the site was found to have no impact on the residential property north or south of the East Fork Lewis River because extension the mining area will not change the truck traffic already traveling to and from the site.

3.0 OVERVIEW OF THE NOISE IMPACT ASSESSMENT PROCEDURE

In conducting the noise impact assessment, the following steps were taken:

1. The existing noise environment was monitored at 9 residential properties around the mining areas to gather information on the type of noise sources currently influencing environment at the residential properties and to provide a noise level baseline for the impact analysis. The data was used to verify the accuracy of the noise model used to predict future noise levels.

2. Future noise levels at residential properties around the mine site were predicted for the conditions that would be present during the expansion of the excavation area.

3. The future noise levels predicted at the residences were compared with government standards and to the existing environment at the residences to determine if negative noise impacts would occur.

4. If significant noise impacts were found, noise mitigation measures were identified.

To fully predict the future noise levels that would be generated during excavation operations in the proposed excavation area, a noise model was developed in which noise was predicted from each of three groups of sound sources: the existing crushing operation, the proposed excavation operation and off-site truck traffic. The sound levels generated by the three source groups were predicted utilizing computer programs that include the effects of atmospheric absorption on sound propagation in the environment. Reference sound data for the analysis was obtained from measurements made by Daly-Standlee & Associates, Inc. and from data supplied by equipment manufacturers. Sound data for the existing crushing equipment and haul trucks was measured by Daly-Standlee & Associates, Inc. Sound data for the excavation equipment was supplied by the manufacturer for the excavation equipment owned by J.L. Storedahl & Sons, Inc.
Three criteria were used to assess noise impacts associated with the proposed excavation operations; 1) Chapter 173-60, "Maximum Environmental Noise Levels", of the Washington Administrative Code

(WAC), 2) Chapter 20.50.025(3)(g) of the Clark County Code and 3) a subjective criteria developed through the use of people's perceptions of noise and the general guidelines about noise perception established by the U.S. Environmental Protection Agency. The WAC criteria and the Clark County Code were used in an attempt to assess the maximum sound level expected to radiate from the proposed operation. The subjective criteria was used to evaluate the change in noise level expected with the proposed operations.

In using the "maximum level" criteria, the noise radiating to residences from the mining activities was compared with the maximum noise levels allowed to radiate by WAC 173-60-040, "Maximum Permissible Environmental Noise Levels" and the Clark County Code Chapter 20.50.025(3)(g). If the mining noise radiating to a residential property exceeded the maximum sound levels allowed in those codes, the proposed operations were considered to have a "serious" noise impact on the residence and mitigation measures were needed to reduce the noise levels at the residence.

In using the "change in noise level" criteria, the predicted mining generated noise levels reaching residential properties were compared with the existing ambient sound levels at the residential properties to determine the change, if any, that would occur with the proposed operations. The difference between the existing noise levels and the mining and processing generated noise levels was then evaluated using the fact that, generally speaking, most people think that a 3 dB increase in sound level is just barely perceptible, a 5 dB increase in sound level is very perceptible and a 10 dB increase is considered by most people to be a doubling of the sound level. In this study, a change in environmental noise levels of 0 - 4 dB is defined as "insignificant" and no mitigation is needed, a change of 5 - 9 dB is defined as "significant" and mitigation measures might be considered if they are economically feasible, and a change of 10 dB or more is defined as "serious" and mitigation measures should be used to reduce the amount of change in noise level to less than 10 dB. This type of evaluation has been used by the Federal Highway Administration in assessing impacts from highway noise and by many State and local governments in assessing continuous noise sources such as the mining operation.

4.0 OVERVIEW OF EXISTING AND PROPOSED OPERATIONS

Currently at the Daybreak mine site, raw aggregate material is hauled in by truck from the Tebo gravel mine site and crushed and screened. The crushed gravel is then hauled by trucks from the site to customers in the County. The normal operating hours at the existing crushing and screening facility are 6:30 am to 5:00 pm. During periods when customer demand requires, crushing and screening operations may continue until 8 pm.

J.L. Storedahl & Sons, Inc. proposes to extend the excavation area at the Daybreak mine site to allow the extraction of raw aggregate materials in areas closer than the Tebo gravel mine to the processing facilities. Hours for the excavation of resource materials in the proposed expansion area will be basically the same as those used for the crushing and screening facilities.

The Daybreak mine site extraction area will be expanded in 7 phases as shown in Figure 2. Based on the most recent mining plan (the year 2000 mining plan), the proposed aggregate extraction will begin in the Phase 1A area and progress into the Phase 1B area and then into the Phase 1C area (see Figure 2). In these areas, because of their small size, aggregated material will likely be excavated with an excavator and loaded directly into haul trucks that will transport the material to the existing

crushing facility at the Daybreak site. Most of the aggregate extraction in these areas will very likely occur with the excavator placed near the existing grade and thus the depth of extraction in these areas will be limited to the extent of the reach from the existing grade.

Once Phases 1A, 1B and 1C are completed, a conveyor will be extended from its current terminus at the northeast corner of Pond 1to NE 61st Avenue near the approximate middle of the Phase 3 area. A trench will be dug with an excavator on the east and west side of NE 61st to allow the conveyor to be routed under NE 61st through a culvert. The material dug from the trench will be placed along the length of the trench and later placed on the conveyor during Phase 3 excavation.
On the east side of NE 61st Avenue, the trench will be continued to the east to approximately the point in Phase 3 where the eastern most reclamation island will be located. The trench will be dug to just above the water table in the Phase 3 area (approximately 12 feet below the existing grade) and the conveyor will be extended from the culvert to the end of the trench with the belting located approximately 8 feet above the floor of the trench (so that the conveyor will be located approximately 4 feet below the existing grade level). At the end of the conveyor, a feed hopper will be placed down inside the trench in preparation for receiving materials from the Phase 2 and 3 areas.

When excavation activities begin in the Phase 2A area, a front-end loader will be used to extract the resource material from the surface of the area near the northwest corner of the area and excavate down to just above the water table in that area. The material will be loaded on to haul trucks which will transport it to the feed hopper located in Phase 3. Once the front-end loader has reached the floor of the first lift (just above the water table), it will then proceed to excavate material in a southerly direction always working from the floor of the pit. After the material has been extracted down to just above the water table, an excavator will be placed down on the floor of the pit and begin to excavate the material below the water table. The excavator will begin excavation in the southeast corner of the Phase 2A area and work back northwest toward the hopper in the Phase 3 area. The excavator will extract the material from below the water table and temporarily pile it on the floor of the pit to allow water to drain. A front-end loader will then scoop the material and load it into haul trucks that will transport the material to the conveyor feed hopper in the Phase 3 area.

Because of the small size of Phase 2B and 2C areas, the resource material from those areas may only be extracted down as far as an excavator can reach from existing grades. Prior to reaching the water table, the material will be placed directly into waiting trucks which will transport the material to the conveyor feed hopper in the Phase 3 area. When excavation occurs below the water table, the resource material may temporarily be stockpiled along side the pit to allow drainage and then a front-end loader may be used to scoop the material and load it into haul trucks.

In the Phase 3 area, a front-end loader will be used to begin excavation of resource material from the surface level in the near vicinity of the conveyor feed hopper. The front-end loader will scoop material and haul it directly to the feed hopper itself without the use of haul trucks. Once a large enough area has been excavated down to just above the water table level, the front-end loader will proceed, operating from the floor of the pit, to excavate material out in all directions from the hopper toward the boundary of the Phase 3 area. After the first lift of resource material has been excavated with the front-end loader, the excavator will be placed down on the floor of the pit and begin to extract material from below the water table in the same manner described for the Phase 2A area. However, instead of the front-end loader scooping up the dewatered material and putting it into haul trucks, it will scoop up the material and transport it directly to the conveyor feed hopper. As the excavation below the water table progresses from the east end to the west end of Phase 3, the

conveyor will be retracted back to the west. Once the Phase 3 area has been fully excavated, the conveyor feed hopper will be moved to the west side of NE 61st Avenue and extended to the Phase 4 area.

Excavation in the Phase 4, 5, 6 and 7 areas will proceed as described above for the Phase 3 area. The conveyor and conveyor feed hopper will be located in a position best situated for each area prior to excavation occurring in the individual areas.

5.0 EXISTING ENVIRONMENT AROUND THE PLANNED MINING AREA

5.1 Land Use

The proposed Daybreak mine expansion area is located in central Clark County (see Figure 1 and 2). The area planned for mining is currently zoned Agricultural 20 with some Surface Mining overlay. The area north of JA Moore Rd. east of the planned mining area is zoned Rural 5. The area west of the planned Daybreak mining area is zoned Agricultural 20. The mining site is bounded on the south by land zoned Agricultural 20. The land immediately south of the historic processing plant location both along the river and on the bluff overlooking the river is zoned Agricultural 20 and Rural 5. The land south of the river near the southeast corner of the extension area is zoned Rural 5 but residential development is generally limited to the bluff overlooking the river. The land southwest of the processing plant site is zoned Agricultural 20 as far south as the bluff overlooking the river. The land on the bluff is then zoned Rural 5. A 1/2 - acre homesite along Bennett Road in the southeast area of the planned mining is zoned Agricultural 20.

5.2 Topography

The proposed mining area is located in the valley cut by the East Fork of the Lewis River. The sides of the valley have grades ranging from 4% to 25% . Above the valley, the area is generally flat except for the ravines created by the creeks which feed the E. Fk. Lewis River.

5.3 Vegetation

The north slope of the E. Fk. Lewis River valley is covered with a dense deciduous and coniferous tree forest. The south slope of the valley is covered with a dense deciduous tree forest. Above and below the valley walls, the land is farm land covered with various grasses and farm crop vegetation.

5.4 Residential Locations

Residential properties are located both on the rim of the valley and in the valley in the vicinity of the proposed mine expansion area (see Figure 2). All residential properties are currently located at least 5000 feet from the existing crushing and screening operation area at the site. Residential properties located in the valley are within 500 feet of some parts of the proposed new excavation area. Residential properties on the rim overlooking the valley will be no closer than 1000 feet from the nearest part of the proposed excavation area.

6.0 NOISE DESCRIPTORS

Sound is the term given to the physical phenomenon detected by the human ear. When physical objects are set into vibration, a minute variation is produced in the atmospheric pressure surrounding the object. The small fluctuations in the atmospheric pressure are what the ear's internal mechanism detects and in turn becomes the "music to some and noise to others".

The small fluctuation in the atmospheric pressure (sound pressure) is the physical property measured with a sound pressure level meter. Because the human ear can detect a variation in the atmospheric pressure over such a large range of magnitudes, sound pressure is expressed on a logarithmic scale in units called decibels (dB). Sound pressure level is easily measured but the subjective evaluation of the level of sound pressure by people (how people judge a sound) has been much more difficult to quantify.

Human response to sound is a function of the magnitude of a sound, the frequency spectrum of the sound (the pitch of the sound), the duration of the sound and the time when it occurs. It is difficult to describe a sound with a single number because of all these parameters that influence human response. However, over the last 20 to 25 years, there have been a significant number of studies conducted to learn more about ways to quantify sound so that there is good correlation with the human response.

Studies have shown that people are more sensitive to higher frequency sound (such as made by an air release valve) than lower frequency sound (such as made by a diesel engine). To address this preferential response to frequency, the A-weighted network was developed for sound recording instrumentation. The A-weighting network of an instrument adjusts the recorded sound pressure level in each frequency band much in the manner that the human ear responds to sound. Thus the A-weighted sound level (read as "dBA") becomes a single number that defines the level of a sound with some indication as to the human response to that sound.

The A-weighted sound level alone is not sufficient to describe the noise environment at any given location because environmental sound levels tend to constantly change with time. Therefore, an environmental noise descriptor needs to address the length of time sound is present as well as the level of the sound. One environmental noise descriptor used widely throughout the United States is the "Statistical Sound Level". The statistical sound level is generally given in terms of the level exceeded a percentage of time during a specified time period" and read "L_{xx}". For example, the L_{50} would be that level exceeded 50% of the time during a specified time period. Usually, the specified time period is one hour in most regulations and standards.

Subjectively, an increase in sound level of 1 dBA would be judged “insignificant”, an increase of 3 dBA would be “barely perceptible” by most people, and an increase of 10 dBA would generally be judged as “twice as loud”.

7.0 IMPACT CRITERIA

Noise impact assessments were made in this study using the Washington State maximum noise level regulation in the Washington Administrative Code (WAC 173-60-040, see Appendix), the Clark County SEPA policy (found in Chapter 20.50.025(3)(g) of the Clark County Code) and a subjective

criteria developed through the use of people's perceptions of noise and the general guidelines about noise perception established by the U.S. Environmental Protection Agency.

The WAC 173-60-040 states that an industrial site may not radiate sound beyond the property line of a residential site that exceeds 60 dBA between the hours of 7:00 a.m. and 10:00 p.m. or 50 dBA between the hours of 10:00 p.m. and 7:00 a.m. with the exceptions that the maximum levels may be exceeded by no more than 5 dBA for fifteen minutes during any hour, by no more than 10 dBA for 5 minutes during any hour and by no more than 15 dBA for 1.5 minutes during any hour. In assessing noise impacts using the WAC noise regulation, an assessment of "serious" impact was given if the noise radiating to a residential receiver was predicted to exceed the WAC limits. An assessment of "insignificant" was assigned if the noise was predicted to be below the WAC limits.

The Washington Code is somewhat confusing and difficult to use as a criteria when it is in the form presented in the Code. To help utilize the Washington Code as a criteria, Daly-Standlee & Associates, Inc. translated the data presented in the Code into the hourly statistical sound levels shown in Table 1. The hourly statistical sound level descriptor is used as the noise descriptor of choice in noise regulations in several other states as well as cities throughout the United States and instrumentations have been made over the years that accommodate easy measurement of the descriptor.

TABLE 1

Washington Administrative Code Noise Rules
Written in Hourly Statistical Level Format for Daybreak Mine Expansion

7 a.m. to 10 p.m	10 p.m. to 7 a.m.
L_{25} = 60 dBA	L_{25} = 50 dBA
L_{08} = 65 dBA	L_{08} = 55 dBA
L_{03} = 70 dBA	L_{03} = 60 dBA
L_{max} = 75 dBA	L_{max} = 65 dBA

Where the L_{25}, L_{08}, and L_{03} levels are those levels exceed 25%, 8% and 3% of the hour respectively.

Chapter 20.50.025(3)(g) of the Clark County code states it is the policy of the county to require the new sources of noise be limited to the maximum environmental noise levels of WAC 173-60. However, the code goes on to state that, even when the noise generated by a source will be within the limits of WAC 173-60, that increase may be considered significant if the source generates an increase in the ambient noise levels of 5 dB or more. Therefore, in this assessment, an impact of "significant" was assigned to any noise levels predicted to be more than 5 dB above the ambient noise at a receiver.

For the subjective evaluation of noise impact, an impact classification of "insignificant" was assigned to a condition where the future sound levels due to the project were 0 - 4 dBA higher than the existing sound levels. An impact classification of "significant" was assigned to conditions where the future sound levels due to the project were 5 - 9 dBA above the existing sound levels. Finally, an impact classification of "serious" was assigned to conditions where the future sound levels due to the project would be 10 dBA and more above the existing sound levels.

If a "serious" impact was determined at a receiver through any of the three criteria, mitigation

measures were concluded to be "required" to reduce noise impacts. If a "significant" impact was determined at a receiver through any of the three criteria, mitigation measures were concluded to be "required, if feasible" to reduce noise impacts. With an "insignificant" noise impact, it was concluded that no mitigation measures were required to reduce noise impact.

8.0 EXISTING NOISE ENVIRONMENT

Ambient sound levels were measured in 1991 at nine residential properties located near the proposed mining expansion area, to determine a baseline of the acoustical environment before any changes occurred at the site. The measurement locations were chosen to represent the noise-sensitive properties in different directions of the expansion area having the greatest potential of receiving noise impacts from the proposed expansion (see Figure 2).

The 1991 data was used as a baseline of the ambient acoustical environment in the noise impact analysis rather data measured during more recent periods because the original noise data were found to provide a more conservative assessment of noise impacts; thus, providing for more protection of the environment at the residences.

8.1 Measurement Locations

The 9 specific ambient noise measurement locations were chosen because they appeared to be representative of the noise sensitive properties around the expansion area that had the most potential of receiving noise impacts. The locations selected were (see Figure 2 for locations):

1) the Shoemaker residence (location A)
2) the Wiseman residence (location B)
3) the Foster residence (location C)
4) the Rose residence (location D)
5) the Gelfand residence (location E)
6) the Dorcheus residence (location F)
7) the Bleth residence (location G)
8) the Wellman residence (location H
9) the dairy farm on Moore Rd. north of the Daybreak site (location I)

8.2 Measurement Procedures

Community ambient sound levels were measured for one hour periods during the time periods of 6 a.m. to 8 a.m., 10 a.m. to Noon and 1 p.m. to 3 p.m. on August 12, 1991 and August 22, 1991. These time periods were chosen to provide sound data that would be representative of the ambient noise levels during morning, midday and afternoon hours of operation. During the measurement periods, significant noise sources influencing the acoustical environment at the residences were identified, including operation of the gravel plant and loading and hauling of material offsite.

The community ambient sound level measurements were made with a Larson-Davis Labs model LD-700, Type 2 Integrating Sound Level Meters programmed to take sound samples 32 times per second and determine and store hourly statistical information about the levels. The statistical data calculated by the meters corresponded to the Washington noise code, i.e., hourly L_{max}, L_{03}, L_{08} and L_{25}. In

addition to the statistical data, the meters determined the hourly L_{eq} sound level which is that sound level, which if present continuously for the hour, would have the same average energy as would be found for the constantly changing sound levels.

At the end of the measurement day, the data in the Larson-Davis instruments was transferred to a computer for further analysis. The print outs from the meters are presented in the appendix.

8.3 Measurement Results

Table 2 presents the average hourly statistical sound levels measured during the measurement period at each measurement position. These average sound levels are used in the impact assessment as the baseline sound levels at the residential properties. The complete results of the measurements are presented in the appendix of this report. Unless otherwise noted, the ambient sound levels presented were a result of noise generated by crickets, birds, planes, wind blowing through trees, farm machinery and roadway traffic not associated with the mining site.

Table 2
Average of Hourly Ambient Statistical Sound Levels (dBA)
From 8/12/91 through 8/22/91

Measurement Location	L_{max}	L_{03}	L_{08}	L_{25}	L_{eq}
A	62	53[1]	52[1]	50[1]	53[1]
B	64	51	48	46[1]	49
C	77[2]	70[2]	64[2]	50	61
D	77[2]	66[2]	62[2]	55	58
E	63	51	49	47[1]	48
F	67	58	53	49	55
G	66	54	52	49	49
H	67	55	53	51[1]	51
I	75	55	49	47	50

Note: 1) Influenced by Daybreak operations.
2) Influenced by passing dump trucks to and from the Daybreak operation.

9.0 PREDICTED NOISE LEVELS

9.1 Noise Prediction Methodology

The sound sources expected at the Daybreak site were divided into three types of sources to more accurately predict the acoustical conditions expected during the continued mining of the site. The three sound sources used in the prediction were 1) the crushing related equipment, 2) excavation related equipment and 3) truck traffic. Predictions were made of the amount of noise that would reach 17 residences around the Daybreak mine site if expansion of the mining area was allowed. The effect of topography and vegetation were included in the predictions where applicable.

The results of the predictions for the three source types were combined into a final, overall sound level at each receiver. The following sections will discuss the methods and assumptions used to predict future levels and present the predicted future sound levels.

9.2 Prediction Models

A computer program was used to predict the noise levels that will radiate from the processing and excavation equipment to residences around the new mining area. The program was developed in-house by Daly-Standlee & Associates, Inc. utilizing established acoustical sound propagation equations presented in reference materials such as "Handbook of Acoustical Measurements and Noise Control, Third Edition" by Cyril M. Harris (Mcgraw-Hill Inc., 1991). The model developed to calculate the future mining noise levels reaching a receiver includes the reduction of sound (sound attenuation) due to distance, atmospheric conditions, trees and terrain.

Reference sound level data for the various pieces of equipment was obtained from measurements made at the existing crushing and screening operation and from manufacturers of equipment owned by J.L. Storedahl & Sons, Inc.

The octave band sound pressure levels used in predicting the noise radiating from each of the major noise sources expected at the proposed site are presented in Table 3.

Table 3
Reference Sound Data Used in Predicting Mining Related Noise Levels[1]

Source	Ref. Dist. (ft)	Octave Band Center Frequency (hz) Sound Pressure Levels (dB)							
		63	125	250	500	1000	2000	4000	8000
Komatsu WA 500 FEL	50	71	76	68	70	69	66	61	53
Komatsu 650 Excavator	50	72	77	69	71	70	67	62	54
On-Site Haul Truck	50	72	81	83	77	73	67	60	50
Crushing & Screening Plant	50	82	87	85	86	85	84	83	83

Note 1: These levels were used to predict the hourly L_{25} noise level. The hourly L_{08} noise levels were predicted by adding 1 dB to the L_{25} noise levels. The hourly L_{03} noise levels were predicted by adding 3 dB to the L_{25} noise levels.

A computer version of the Federal Highway Administration, Noise Prediction Model was used to predict noise levels due to truck traffic associated with the project. The average and maximum number of daily truck trips were evaluated. This model calculates the sound pressure level at a receiver due to traffic flowing by the receiver at a constant speed. The model accounts for attenuations due to distance, barriers and vegetation.

9.3 Assumptions Included in the Analysis

To predict the worst case conditions that might exist with the mining extension, it was assumed that all the excavation and crushing equipment is operating continuously throughout each hour of the work day. All trucks are assumed to be traveling at 20 mph on site and 35 mph on county roads.

The sound levels at the residences in the valley will be influenced by the vegetation on the mining area. During the growing season, fields of hay or grain is grown on the land in the mining area. During the winter months, the ground is either plowed or a winter crop is planted. The influence of vegetation on the sound reaching the residences in the valley are considered valid only until the excavation removes the vegetation and the fields are replaced by water.

The sound radiating to the residences on the rim of the valley will not be affected by the vegetation in the valley and there will be only a minimal amount of effect by the vegetation on the valley walls. During the initial visits to the area in August 1991, the vegetation on the north slopes of the valley was noted to be mainly conifer trees while the vegetation on the south slope appeared to be mainly deciduous trees.

9.4 Prediction Results

Table 4 presents the predicted maximum Daybreak mine generated hourly L_{25} sound levels with no mitigation measures at the 17 prediction locations considered in this study.

Table 4
Predicted Loudest Hour L_{25} Sound Levels from Excavation & Crushing Operations at the Daybreak Mine Site with Approved Expansion of the Mining Area
(levels in excess of the WAC limit are in bold)

Receiver	Crusher Noise (dBA)	Excavation Noise (dBA) (by phase)							Crushing plus Excavation Noise (dBA) (by phase)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	44	49	**67**	46	40	42	34	34	50	**67**	48	45	46	44	34
2	48	**70**	**62**	51	46	49	40	42	**70**	**62**	52	50	52	49	48
3	46	47	55	55	43	43	37	37	50	56	56	48	48	47	47
4	46	47	51	58	44	44	38	38	50	52	58	48	48	47	47
5	46	46	49	**63**	45	45	39	39	49	51	**63**	42	49	47	47
6	46	47	51	**70**	51	51	42	42	50	52	**70**	52	52	47	47
7	46	48	51	**70**	52	52	43	43	50	52	**70**	53	53	48	48
8	46	48	51	**63**	**67**	56	44	44	50	52	**63**	**67**	56	47	47
9	46	48	51	**62**	**65**	55	44	44	50	52	**62**	**65**	56	48	48
10	46	46	50	55	**62**	53	45	45	49	51	56	**62**	54	49	49
11	46	45	44	46	**61**	50	52	52	49	48	49	**61**	51	53	53
12	46	40	38	38	45	43	55	48	47	47	47	49	48	56	50
13	48	40	38	38	45	43	55	48	49	48	48	50	49	56	51
14	48	40	38	38	45	43	55	48	49	48	48	50	49	48	48
15	48	41	46	54	43	43	37	37	49	50	55	49	49	48	48
16	46	43	42	42	38	40	38	38	48	47	47	47	47	47	47
17	50	39	39	39	38	39	39	40	50	50	50	50	50	50	50

10.0 IMPACT ASSESSMENT

The residences most likely to be impacted by the expansion of the mining area at the Daybreak mining site will be those residences located on the north rim of the valley overlooking the mining site, those residences located at the valley floor near the north and east boundaries of the expansion area and those residences located along Bennett Rd in the vicinity of the expansion area. The noise at residences south of the Lewis River (such as prediction locations 16 and 17 in Figure 2) will basically experience the same sound levels that were experienced prior to the mining expansion because they are so far from the proposed excavation area. Based on assessment using all three criteria, the noise reaching the residences south of the river will be “insignificant”. Therefore, no noise mitigation measures are

required to reduce the noise radiating from the expansion area to residences on the south side of the Lewis River.

At prediction location 1 (Foster Residence), the loudest hour L_{25} noise level is expected to exceed the WAC noise criteria (60 dBA), the County SEPA criteria (55 dBA for this location) and the 10 dB increase criteria (60 dBA for this location) during excavation operations in Phase 2A if mitigation measures are not used to reduce the noise radiating from the excavation equipment. Therefore, noise impacts are expected to be "serious" at location 1 during mining activities in Phase 2A if noise mitigation measures are not included in the mining plan. During all other phases, the noise reaching the residence is expected to be below the noise levels already found at the residence so the noise impacts are expected to be "insignificant" during those phases. No noise mitigation will be required during those phases.

At prediction location 2 (Rose Residence), the loudest hour L_{25} noise level is expected to exceed the WAC noise criteria (60 dBA), the County SEPA criteria (60 dBA for this location) and the 10 dBA change criteria (65 dBA for this location) during some excavation operations in Phase 1A, 1C. 2B and 2C if mitigation measures are not used to reduce the noise radiating from the excavation equipment. Therefore, noise impacts would be considered "serious" at location 2 during mining activities in those phases if noise mitigation measures are not included in the mining plan. During all other phases, the noise reaching the residence is expected to be below that already found at the residence and therefore, noise impacts are expected to be "insignificant" during those phases. Consequently, no noise mitigation will be required during those phases.

At prediction location 3 (Morris Residence), the loudest hour L_{25} noise level is expected to remain below the WAC criteria limit and the 10 dB change limit at all times. However, the loudest hour L25 noise level is expected to exceed the County SEPA criteria (53 dBA for this location) at some time during excavation operations in Phase 2C and Phase 3 if mitigation measures are not used to reduce the noise radiating from the excavation equipment. Therefore, using the County SEPA criteria, the noise impact at location 3 could be considered "significant" during some portion of the excavation activities in Phase 2C and Phase 3. However, because the change will be less than 10 dB, the change in noise level is not considered "serious" during Phase 2C and Phase 3 activities. The noise reaching location 3 would be considered "insignificant" during activities in all other phases in the expansion area and noise mitigation measures will not be needed to protect prediction location 3 during those phases. Noise mitigation may be desirable during mining operations in portions of Phase 2C and 3.

At prediction locations 4 (Snider Residence) and 5 (Antes Residence), if mitigation measures are not used ,the loudest hour L_{25} noise level is expected to exceed the County SEPA criteria level (53 dBA for location 4 and 52 dBA for location 5) but not the WAC criteria nor the 10 dBA change criteria (58 dBA for location 4 and 57 dBA for location 5) during some of the excavation operations in Phase 3. Therefore, noise impacts at locations 4 and 5 are expected to be "significant" during portions of the mining activities in Phase 3 but not "serious" because the levels will not exceed the WAC criteria nor the 10 dB change criteria mining activities in all other phases. During mining activities in all other phases, the noise reaching the two residences will remain below all three criteria and the noise impacts would be considered "insignificant" during those phases. Mitigation measures may be desirable during some parts of the Phase 3 mining, but during mining operations in all other phases, noise mitigation measures are not needed.

At prediction locations 6 (Gelfand Residence) and 7(Dorcheus Residence), the loudest hour L_{25} noise

level is expected to exceed the WAC noise criteria (60 dBA), the County SEPA criteria (52 dBA for location 6 and 53 dBA for location 7) and the 10 dBA change criteria (57 dBA for location 6 and 58 dBA for location 7) at some time during excavation operations in the Phase 3 area if mitigation measures are not used to reduce the noise radiating from the excavation equipment. Therefore, the noise during that time would be expected to have a "serious" impact on the two residences if mitigation was not considered. During all other phases, the noise reaching the two residences will always be below all three criteria and the impacts would be considered "insignificant" at the residences. Therefore, mitigation measures are needed only during mining activities in Phase 3 to protect locations 6 and 7.

At prediction locations 8 (2nd Dorcheus Residence) and 9 (3rd Dorcheus Residence), the loudest hour L_{25} noise level is expected to exceed the WAC noise criteria (60 dBA), the County SEPA criteria (54 dBA for location 8 and 53 dBA for location 9) and the 10 dBA change criteria (59 dBA for location 8 and 58 dBA for location 9) at some time during excavation operations in both the Phase 3 area and the Phase 4 area if mitigation measures are not used to reduce the noise radiating from the excavation equipment. Therefore, the noise during some part of Phase 3 and Phase 4 work would be expected to have a "serious" impact on the two residences if mitigation is not considered and mitigation of the noise during those phases is very important. During Phase 5 the noise levels at the two residences will be slightly above the County SEPA criteria levels so that the impact might be considered "significant" but the levels would not be high enough to raise the impact assessment to "serious". Noise mitigation may be desirable during mining operations in portions of Phase 5. During phases 1, 2, 6 and 7, the noise reaching the two residences will be below all three criteria and the impacts would be considered "insignificant" and mitigation measures are not needed during those phases.

The noise radiating from the Daybreak site to location 10 (Crawford Residence) would not exceed the three criteria during mining activities in Phase 1, 2, 5, 6 and 7 and thus the impacts during those phases would be considered "insignificant" and mitigation measures are not needed during that time. During mining activities in Phase 4, the noise reaching location 10 would, at times, exceed the WAC criteria (60 dBA), the County SEPA criteria (54 dBA for this location) and the 10 dB change criteria (59 dBA for this location). At that time, the noise radiating from the mining operations to the location would be considered "serious" and mitigation would be highly desirable. During mining activities in Phase 3, the noise radiating to location 10 would be only slightly above the County SEPA criteria without mitigation but it would not exceed the other two criteria. Therefore the noise reaching location 10 during Phase 3 would not be considered "serious" but noise mitigation may be desirable during mining operations in portions of Phase 3.

At location 11 (Hanger Residence), the noise radiating from the mining site would be considered "insignificant" during all phases except Phase 4 when the noise reaching the location could possible exceed all three criteria (the WAC code limit of 60 dBA, the SEPA criteria of 54 dBA and the 10 dB change limit of 59 dBA), if noise mitigation measures are not considered during that phase. Therefore, mitigation measures should be provided for location 11 during Phase 4 mining activities. During all other phases, mitigation of noise would not be necessary.

At location 12 (Woodside Residence), the noise radiating from the mining activities in the expansion area will be "insignificant" during all phases except Phase 6 because during the mining in those phases, the noise will always be less than all three criteria levels (60 dBA for the WAC limit, 52 dBA for the County SEPA criteria and 57 dBA for the 10 dB increase criteria). Thus during mining activities in Phase 1, 2, 3, 4, 5 and 7, mitigation of noise from the mining area is not necessary. During the mining

in the Phase 6 area, there is the potential that at some time, the noise radiating to location 12 may be more than 5 dB above the ambient but it will not be more than 8 dB above the ambient which means it will not be a "serious" change. Noise mitigation may be desirable during mining operations in portions of Phase 6.

At locations 13 (Sass Residence), 14 (Anderson Residence), 15 (Bleth Residence), 16 (unknown residence owner), and 17 (unknown residence owner) the noise radiating from the expansion site will always be below all three criteria. Therefore, there will be an "insignificant" change in noise at those sites due to the expansion and mitigation is not needed.

11.0 MITIGATION MEASURES

According to the impact assessment results, mitigation measures "will be required" to reduce the amount of excavation noise that will radiate from mining activities in Phase 1 to residences in the vicinity of location 2, from mining activities in Phase 2 to residences in the vicinity of location 1 and 2, from mining activities in Phase 3 to residences in the vicinity of prediction locations 6, 7, 8, and 9, and from mining activities in Phase 4 to residences in the vicinity of location 8, 9, 10 and 11. Also, according to the results, it may be "desirable" to consider providing mitigation measures during mining activities in Phase 2 for residences in the vicinity of location 3 and location 6, during mining activities in Phase 3 for residences in the vicinity of location 3, 4, 5 and 10, during mining activities in Phase 5 for residences 8 and 9 and during mining activities in Phase 6 for location 12.

To reduce the noise levels radiating from the mining area to levels that would be considered to have an "insignificant" impact on residences, berms or engineered barriers could be constructed at specific locations around the mining area. Figure 3 presents the locations for berms or engineered barriers and Table 5 shows the height and length required for the berms or barriers.

TABLE 5
Required Barrier Heights and Lengths
to Achieve "Insignificant" Noise Impacts at All Residences

Dimensions		Barrier#									
		1	2	3	4	5	6	7	8	9	10
Length (feet)		300	200	400	200	300	850	700	600	550	400
HEIGHT (ft)	left end (as seen from residences)	8	9	9	9	9	1	10	9	1	5
	100' from left end	11	9.5	9	8	9	2	11	9	2	5
	200' from left end	11	9	5	8	9	4	12	7	4	5
	300' from left end	11	NA	2	NA	9	4	10	3	7	4
	400' from left end	NA	NA	2	NA	NA	8	9	6	6	2
	500' from left end	NA	NA	NA	NA	NA	8	8	6	5	NA
	600' from left end	NA	NA	NA	NA	NA	8	8	5	NA	NA
	700' from left end	NA	NA	NA	NA	NA	8	9	NA	NA	NA
	800' from left end	NA	NA	NA	NA	NA	8	NA	NA	NA	NA

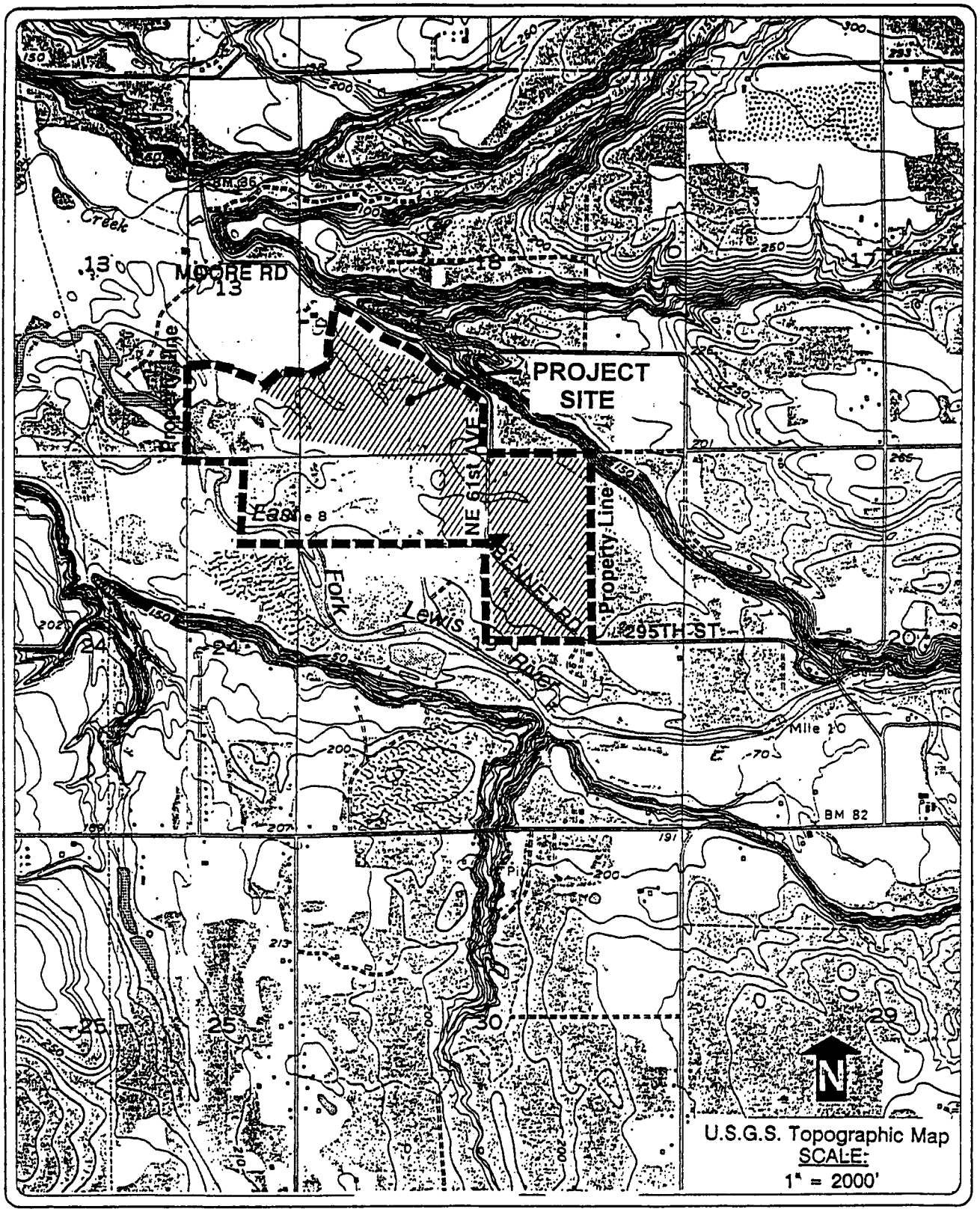
Barrier # 1 is required prior to excavation in Phase 1A. Once excavation is complete in Phase 1A, the barrier is no longer required. Barrier #2 is required prior to excavation in Phase 1C. After excavation is complete in Phase 1C, the barrier is no longer required. Barrier #3 and Barrier #6 is required after the conveyor feed hopper has been installed in the Phase 3 area and prior to excavation in Phase 2A. Once excavation is complete in Phase 2A, Barrier #3 is no longer required but Barrier # 6 needs to remain until excavation is complete in the east half of Phase 3. Barrier #4 is required prior to excavation in Phase 2B. Once excavation is complete in Phase 2B, the barrier is no longer required. Barrier #5 is required prior to excavation in Phase #2C. Once excavation is complete in Phase 2C, the barrier is no longer required. Barrier #7 is required prior to excavation in the western portion of Phase 3. Barrier #7 should remain until excavation is complete in the Phase 3 area. Barrier #8 is required prior to excavation in Phase 4. Barrier # 8 should be left until excavation is complete in the western end of Phase 4 and Phase 5. Barrier #9 is required prior to excavation in the northern portion of Phase 4. Once the northern portion of Phase 4 has been excavated, the barrier can be removed. Barrier #10 needs to be constructed prior to excavation in Phase 1D. The barrier should be left until excavation is complete in the western half of Phase 6.

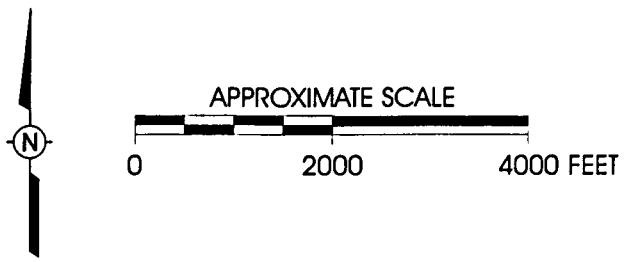
12.0 CONCLUSIONS

Mining can occur in the proposed expansion area at Daybreak Gravel Mine with "insignificant" noise impacts on residences around the area if berms or engineered barriers are placed at specific locations shown in Figure 3 with the length and heights shown in Table 5. Barrier # 1 is required prior to excavation in Phase 1A. Once excavation is complete in Phase 1A, the barrier is no longer required. Barrier #2 is required prior to excavation in Phase 1C. After excavation is complete in Phase 1C, the barrier is no longer required. Barrier #3 and Barrier #6 is required after the conveyor feed hopper has

been installed in the Phase 3 area and prior to excavation in Phase 2A. Once excavation is complete in Phase 2A, Barrier #3 is no longer required but Barrier # 6 needs to remain until excavation is complete in the east half of Phase 3. Barrier #4 is required prior to excavation in Phase 2B. Once excavation is complete in Phase 2B, the barrier is no longer required. Barrier #5 is required prior to excavation in Phase #2C. Once excavation is complete in Phase 2C, the barrier is no longer required. Barrier #7 is required prior to excavation in the western portion of Phase 3. Barrier #7 should remain until excavation is complete in the Phase 3 area. Barrier #8 is required prior to excavation in Phase 4. Barrier # 8 should be left until excavation is complete in the western end of Phase 4 and Phase 5. Barrier #9 is required prior to excavation in the northern portion of Phase 4. Once the northern portion of Phase 4 has been excavated, the barrier can be removed. Barrier #10 needs to be constructed prior to excavation in Phase 1D. The barrier should be left until excavation is complete in the western half of Phase 6.

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Portland	J. Clugston 8/14/2000			793584-A5





IT CORPORATION
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FIGURE 1
NOISE STUDY
SITE LOCATION MAP
J.L. STOREDAHL & SONS, INC.
CLARK COUNTY, WASHINGTON

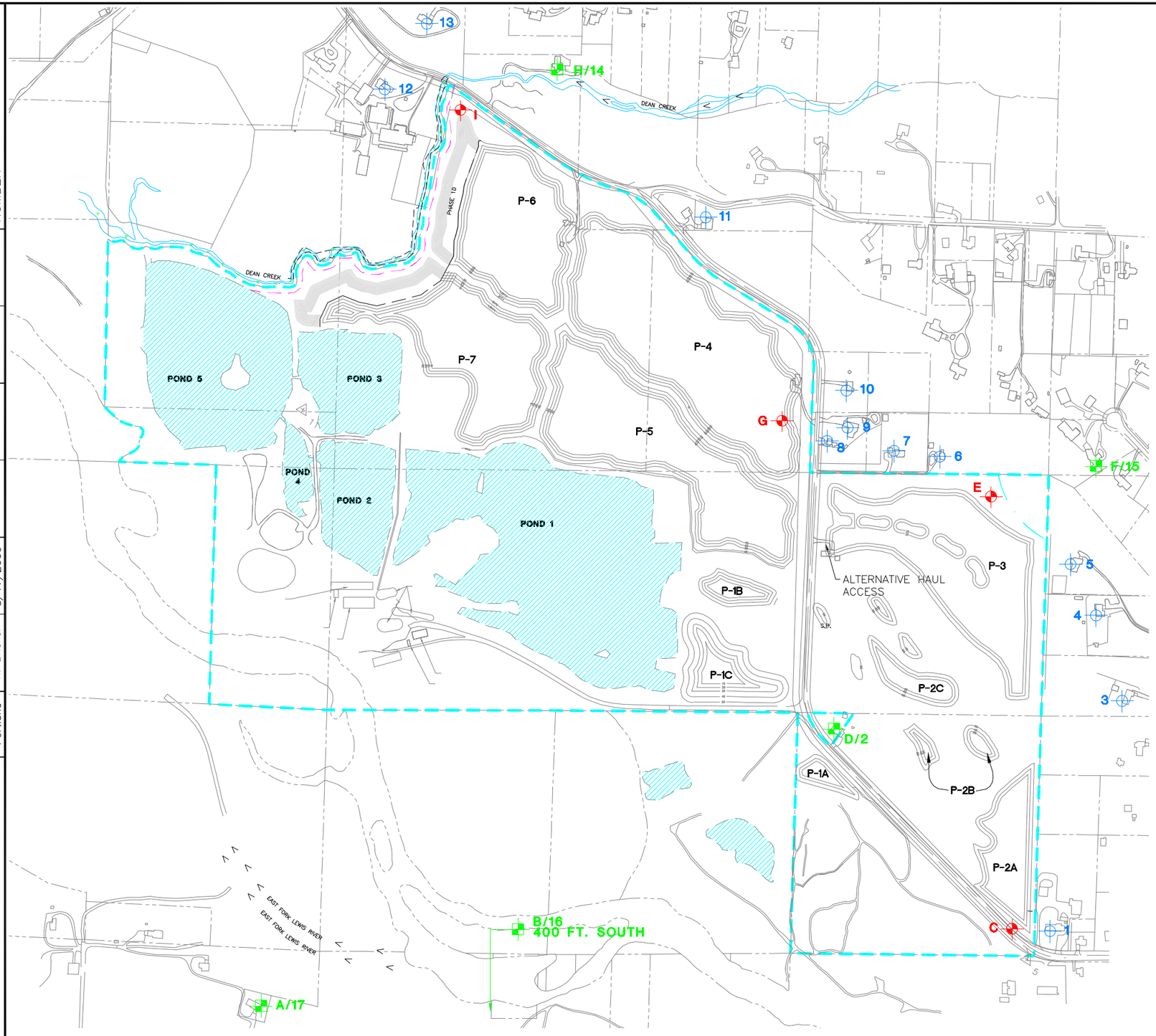
PROJECT NUMBER 793584-B19

APPROVED BY

CHECKED BY

DRAWN BY R. Bricker 8/17/2000

OFFICE Portland



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0 300 600

SCALE IN FEET

LEGEND:

- LOT LINE
- SITE BOUNDARY
- DEAN CREEK SETBACK
- EXISTING MINE PONDS
- P-1B — FUTURE MINE EXCAVATION AND PHASE DESIGNATION
- C — NOISE MEASUREMENT LOCATION
- 1 — NOISE MODELING LOCATION
- A/17 — NOISE MEASUREMENT AND MODELING LOCATION

DSA ENGINEERS

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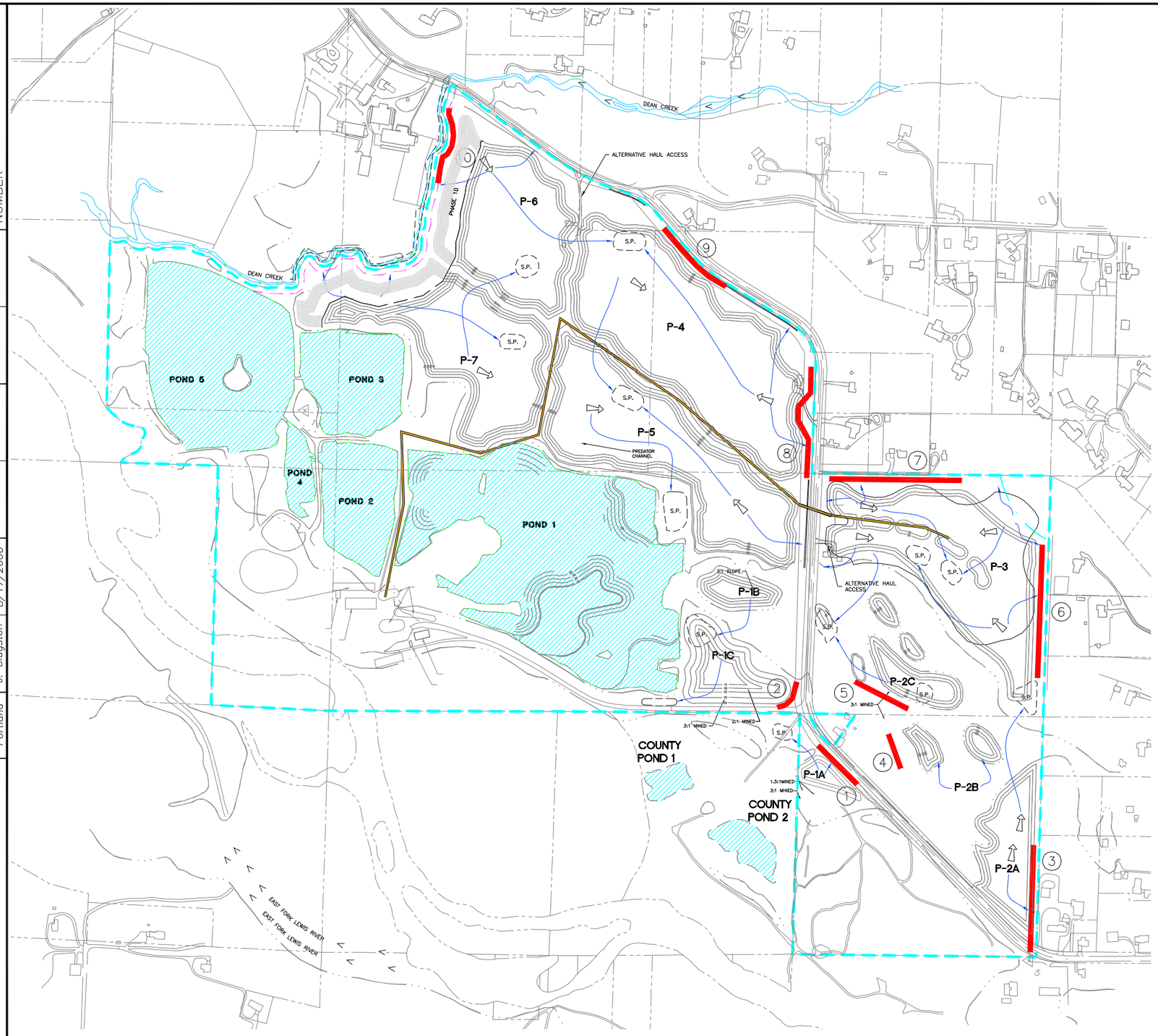
FIGURE 2

NOISE IMPACT ASSESSMENT

NOISE MEASUREMENT/MODELING LOCATIONS

J.L. STOREDAHL & SONS INC.
CLARK COUNTY, WASHINGTON

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	PROJECT NUMBER
Portland	J. Clugston			793584-B18
	8/17/2000			



LEGEND:

- P-1A — MINING PHASE AND DIRECTION OF MINING.
- SITE BOUNDARY
- DEAN CREEK SETBACK
- DIRECTION OF OVERBURDEN STRIPPING AND STOCK PILING
- S.P. — TOPSOIL AND REJECT STOCK PILE AREAS.
- S.P. — APPROXIMATE CONVEYOR ALIGNMENT
- EXISTING DRIVEWAYS TO BE USED FOR ACCESS
- SOUND BARRIER
- VISUAL BUFFER (5 FOOT TALL EARTHEN BERM OR VEGETATED ZONE)

NOTES:

1. SOUND BARRIERS COULD BE EITHER EARTHEN BERMS OR ENGINEERED WALLS. HEIGHT OF BARRIERS WAS DETERMINED FROM NOISE ATTENUATION MODELING AS DESCRIBED IN THE NOISE STUDY. SEE TABLE IN NOISE STUDY REPORT FOR BARRIER HEIGHT.
2. WIDTH OF EARTHEN BARRIERS IS PROPORTIONAL TO HEIGHT ASSUMING A 2:1 SLOPE AND A 5 FOOT WIDE LEVEL CAP.
3. BERMS FOR NOISE AND VISUAL BUFFERS ARE TEMPORARY. IF SOUND BARRIERS ARE EARTHEN, MATERIAL WILL BE USED TO CONSTRUCT RECLAMATION ELEMENTS AFTER MINING IS COMPLETE IN THE ADJACENT PHASE.
4. SECURITY FENCES WILL BE INSTALLED ALONG ROADWAYS AT THE DISCRETION OF STOREDAHL.
5. MINIMUM MINE SETBACK FROM PROPERTY BOUNDARY IS 15 FEET. SETBACK FROM COUNTY ROADS IS FUNCTION OF BERM WIDTH. SETBACK FROM DEAN CREEK IS 75 FEET FROM OHWM.
6. CONVEYOR ALIGNMENT IS APPROXIMATE. FINAL ALIGNMENT OF CONVEYOR SEGMENTS WILL BE DETERMINED DURING MINING. FINAL MINING, GRADING, AND RECLAMATION OF PONDS ALONG CONVEYOR ALIGNMENT WILL OCCUR AFTER CONVEYOR IS DISMANTLED.
7. BERM HEIGHTS BASED ON USE OF KOMATSSU PC650 EXCAVATOR. USE OF QUIETER EXCAVATOR COULD REDUCE BERM HEIGHT.
8. SCREENED CONTOURS REPRESENT PHASE-1D RECLAIMED MINE CUT.

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FIGURE 3
NOISE IMPACT ASSESSMENT
MINING SEQUENCE PLAN AND
NOISE REDUCTION BARRIERS
J.L. STOREDAHL & SONS INC.
CLARK COUNTY, WASHINGTON

APPENDIX

WAC 173-60-040 Maximum permissible environmental noise levels. [1] (1) No person shall cause or permit noise to intrude into the property of another person which noise exceeds the maximum permissible noise levels set forth in this section.
(2)(a) The noise limitations established are as set forth in the following table after any applicable adjustments provided for herein are applied.

EDNA of NOISE SOURCE	EDNA of RECEIVING PROPERTY		
	Class A	Class B	Class C
CLASS A	55 dBA	57 dBA	60 dBA
CLASS B	57	60	65
CLASS C	60	65	70

(b) Between the hours of 10:00 p.m. and 7:00 a.m. the noise limitations of the foregoing table shall be reduced by 10 dBA for receiving property within Class A EDNA's.
(c) At any hour of the day or night the applicable noise limitations in (a) and (b) above may be exceeded for any receiving property by no more than:
(i) 5 dBA for a total of 15 minutes in any one-hour period; or
(ii) 10 dBA for a total of 5 minutes in any one-hour period; or
(iii) 15 dBA for a total of 1.5 minutes in any one-hour period. [Order 74-32, Section 173-60-040, filed 4/22/75, effective 9/1/75]

[1] Washington State Noise Code, Chapter 173-60 WAC, Maximum Environmental Noise Levels, March 4, 1987

Measured Octave Band Sound Levels
Of the Excavation and Crushing Operations Equipment

Source	Reference Dist (ft)		Octave Band Center Frequency (hz) 31.5	63	125	250	500	1000	2000	4000	8000	16000
Excavation Equipment :												
Terex 90C Wheel Loader	44		61	69	79	72	67	70	67	59	52	42
Komatsu Backhoe	100		61	72	77	69	71	70	67	62	54	39
Crushing Equipment:												
Roll Crusher	17		86	85	92	89	89	89	89	89	90	94
Jaw Crusher	10		86	92	94	93	93	91	88	83	79	66
Cone Crusher	9	87	88	94	94	96	94	91	85	77	64	
Primary Screen Deck	20	82	81	86	83	83	81	84	84	84	73	
1" minus Screen Deck	25		79	79	86	83	84	81	83	82	80	72
1/4" minus Screen Deck	15		77	80	84	83	83	79	78	76	74	62
Terex 90B Wheel Loader	12		73	70	85	83	84	82	83	76	72	65
Terex 3305B Haul Truck	38		72	74	83	85	79	75	73	69	62	52

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 1A pit for Receiver 4 (Rose Residenc
with no reduction of FEL noise and assuming excavator is in the east side
of pit 1A- Saved in file 159916-pit1AFEL-1.env

Number of sources: 2
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53
Terex 90 Wheel Loader	44	73.9	80.9	69	79	72	67	70	67	59	52

Receiver 1: Receiver 4 - Rose Residence

Total noise level with barrier(s):	61.5 dBA	70.2 dB
Total noise level without barrier(s):	70.3 dBA	76.6 dB
Noise reduction provided by barrier(s):	8.9 dBA	6.4 dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	60.9	69.3	62	67	58	59	56	51	42	31
w/out barrier	69.5	75.5	67	72	64	66	65	62	56	48
Terex 90 Wheel Loader w/ barrier	52.6	63.2	52	62	54	47	48	42	30	20
w/out barrier	62.6	69.9	58	68	61	56	59	56	46	39

Receiver	X	Y	Z
Receiver 4 - Rose Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	150	0	10	140	0	12	0
Terex 90 Wheel Loader	155	0	10	140	0	13	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 1A pit for Receiver 4 (Rose Residenc with no reduction of FEL noise and assuming excavator is in the south central of pit 1A- Saved in file 159916-pit1AFEL-4.env

Number of sources: 2 Temperature: 50
Number or receivers: 1 Humidity: 70
Maximum reduction provided by barrier: 24

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53
Terex 90 Wheel Loader	44	73.9	80.9	69	79	72	67	70	67	59	52

Receiver 1: Receiver 4 - Rose Residence
Total noise level with barrier(s): 60.8 dBA 68.5 dB
Total noise level without barrier(s): 67.8 dBA 74.1 dB
Noise reduction provided by barrier(s): 7.0 dBA 5.7 dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	60.2	67.5	60	65	56	58	56	51	43	32
w/out barrier	66.9	73.0	65	70	62	64	63	59	53	45
Terex 90 Wheel Loaderw/ barrier	51.9	61.6	51	60	53	47	48	42	30	20
w/out barrier	60.4	67.7	56	66	59	54	57	53	44	37

Receiver	X	Y	Z
Receiver 4 - Rose Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	200	0	10	180	0	11	0
Terex 90 Wheel Loader	200	0	10	180	0	12	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 2A pit for Residence 3 (Wolle Reside with no reduction of FEL noise and assuming the FEL is 12 ft below grade in SE corner of pit 2A- Saved in file 159916-pit2AFEL-1.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

			Reference Levels							
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 3 - Wolle Residence

Total noise level with barrier(s):	55.3 dBA	67.2 dB
Total noise level without barrier(s):	72.3 dBA	78.2 dB
Noise reduction provided by barrier(s):	17.0 dBA	11.0 dB

			Level with and without barrier							
Source		dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	w/ barrier	55.3	67.2	62	65	54	53	49	43	35	27
	w/out barrier	72.3	78.2	70	75	67	69	68	65	59	51

Receiver	X	Y	Z
Residence 3 - Wolle Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	110	0	-2	90	0	8	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 2A pit for Residence 3 (Wolle Reside
with no reduction of FEL noise and assuming FEL is at grade in the nw corner
of pit 2A- Saved in file 159916-pit2AFEL-2.env

Number of sources: 1 Temperature: 50
Number or receivers: 1 Humidity: 70
Maximum reduction provided by barrier: 24

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 3 - Wolle Residence
Total noise level with barrier(s): 55.8 dBA 62.7 dB
Total noise level without barrier(s): 57.5 dBA 64.6 dB
Noise reduction provided by barrier(s): 1.6 dBA 1.8 dB

			Level with and without barrier							
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/out barrier	54.8	61.5	54	59	51	52	51	47	36	27

Receiver	X	Y	Z
Residence 3 - Wolle Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	730	0	10	0	0	0	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 2A pit for Residence 3 (Wolle Reside with no reduction of FEL noise and assuming the FEL is 12 ft below grade in NE area of of pit 2A- Saved in file 159916-pit2AFEL-3.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 3 - Wolle Residence
Total noise level with barrier(s): 53.4 dBA 59.9 dB
Total noise level without barrier(s): 58.5 dBA 64.9 dB
Noise reduction provided by barrier(s): 5.1 dBA 5.0 dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	53.4	59.9	52	57	49	51	49	45	37	28
w/out barrier	58.5	64.9	57	62	54	56	54	51	42	33

Receiver	X	Y	Z
Residence 3 - Wolle Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	500	0	-2	275	0	2	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 2A pit for Residence 3 (Wolle Reside
with no reduction of FEL noise and assuming the FEL is 12 ft below grade in SE area
of pit 2A- Saved in file 159916-pit2AFEL-4.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 3 - Wolle Residence
Total noise level with barrier(s): 54.8 dBA 63.6 dB
Total noise level without barrier(s): 63.9 dBA 70.0 dB
Noise reduction provided by barrier(s): 9.0 dBA 6.4 dB

			Level with and without barrier							
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	54.8	63.6	57	61	52	53	50	44	35	23
w/out barrier	63.9	70.0	62	67	59	61	60	56	49	41

Receiver	X	Y	Z
Residence 3 - Wolle Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	280	0	-2	140	0	7	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 5B (Snider Reside with no reduction of FEL noise and assuming the FEL is at grade near the hopper of pit 3- Saved in file 159916-pit3FEL-1.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 5B - Snider Residence

Total noise level with barrier(s):	52.6 dBA	59.1 dB
Total noise level without barrier(s):	57.6 dBA	64.1 dB
Noise reduction provided by barrier(s):	5.0 dBA	5.0 dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	52.6	59.1	51	56	48	50	49	45	36	27
w/out barrier	57.6	64.1	56	61	53	55	54	50	41	32

Receiver	X	Y	Z
Residence 5B - Snider Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	550	0	10	300	0	8	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 5 (Antes Residenc with no reduction of FEL noise and assuming the FEL is at grade near the hopper of pit 3- Saved in file 159916-pit3FEL-2.env

Number of sources: 1 Temperature: 50
Number or receivers: 1 Humidity: 70
Maximum reduction provided by barrier: 24

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 5 - Antes Residence
Total noise level with barrier(s): 54.3 dBA 60.8 dB
Total noise level without barrier(s): 59.5 dBA 65.9 dB
Noise reduction provided by barrier(s): 5.2 dBA 5.0 dB

			Level with and without barrier							
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	54.3	60.8	53	58	50	52	50	46	38	29
w/out barrier	59.5	65.9	58	63	55	57	55	52	43	35

Receiver	X	Y	Z
Residence 5 - Antes Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	450	0	10	180	0	8	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 5 (Antes Residenc
with no reduction of FEL noise and assuming the FEL is 12' below grade in NE corner
of pit 3- Saved in file 159916-pit3FEL-3.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 5B - Snider Residence
Total noise level with barrier(s): 52.2 dBA 62.2 dB
Total noise level without barrier(s): 63.2 dBA 69.4 dB
Noise reduction provided by barrier(s): 11.0 dBA 7.3 dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	52.2	62.2	56	60	51	51	47	41	31	19
w/out barrier	63.2	69.4	61	66	58	60	59	56	48	40

Receiver	X	Y	Z
Residence 5B - Snider Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	300	0	-2	200	0	8	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 5B (Snider Reside with no reduction of FEL noise and assuming the FEL is 12' below grade in SE corner of pit 3- Saved in file 159916-pit3FEL-4.env

Number of sources: 1□ Temperature: 50□
Number or receivers: 1□ Humidity: 70□
Maximum reduction provided by barrier: 24□

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100□	73.3□	79.1□	71□	76□	68□	70□	69□	66□	61□	53□

Receiver 1: Residence 5B - Snider Residence

Total noise level with barrier(s):	52.2□dBA	59.8□dB
Total noise level without barrier(s):	58.9□dBA	65.3□dB
Noise reduction provided by barrier(s):	6.6□ dBA	5.5□ dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	52.2□	59.8□	52□	57□	49□	50□	48□	43□	33□	21□
w/out barrier	58.9□	65.3□	57□	62□	54□	56□	55□	51□	43□	34□

Receiver	X	Y	Z
Residence 5B - Snider Residence	0□	0□	5□

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	480□	0□	-2□	320□	0□	4□	0□

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 5C (Morris Resid
with no reduction of FEL noise and assuming the FEL is 12' below grade in SE corner
of pit 3- Saved in file 159916-pit3FEL-5.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 5B - Snider Residence

Total noise level with barrier(s):	51.7 dBA	58.8 dB
Total noise level without barrier(s):	57.6 dBA	64.1 dB
Noise reduction provided by barrier(s):	5.8 dBA	5.3 dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	51.7	58.8	51	56	48	49	48	43	33	22
w/out barrier	57.6	64.1	56	61	53	55	54	50	41	32

Receiver	X	Y	Z
Residence 5B - Snider Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	550	0	-2	470	0	1	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 7 (Gelfand Reside
to meet County 5 dB change rule with no reduction of FEL noise and assuming the FEL
is 12' below grade in NE corner of pit 3- Saved in file 159916-pit3FEL-6.env

Number of sources: 1□ Temperature: 50□
Number or receivers: 1□ Humidity: 70□
Maximum reduction provided by barrier: 24□

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100□	73.3□	79.1□	71□	76□	68□	70□	69□	66□	61□	53□

Receiver 1: Residence 7 - Gelfand Residence
Total noise level with barrier(s): 52.9□dBA 64.8□dB
Total noise level without barrier(s): 69.5□dBA 75.5□dB
Noise reduction provided by barrier(s): 16.6□dBA 10.7□dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	52.9□	64.8□	59□	63□	52□	51□	47□	41□	32□	24□
w/out barrier	69.5□	75.5□	67□	72□	64□	66□	65□	62□	56□	48□

Receiver	X	Y	Z
Residence 7 - Gelfand Residence	0□	0□	5□

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	150□	0□	-2□	100□	0□	12□	0□

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 7 (Gelfand Reside
to meet 10 dB change rule with no reduction of FEL noise and assuming the FEL
is 12' below grade in NE corner of pit 3- Saved in file 159916-pit3FEL-7.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 7 - Gelfand Residence

Total noise level with barrier(s):	57.1 dBA	67.5 dB
Total noise level without barrier(s):	69.5 dBA	75.5 dB
Noise reduction provided by barrier(s):	12.4 dBA	8.0 dB

			Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	57.1	67.5	61	65	56	55	52	46	36	25
w/out barrier	69.5	75.5	67	72	64	66	65	62	56	48

Receiver	X	Y	Z
Residence 7 - Gelfand Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	150	0	-2	100	0	7	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 8B (Dorcheus Res
to meet County 5 dB change rule with no reduction of FEL noise and assuming the FEL i
is 12' below grade in NW corner of pit 3- Saved in file 159916-pit3FEL-8.env

Number of sources: 1 Temperature: 50
Number or receivers: 1 Humidity: 70
Maximum reduction provided by barrier: 24

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 8B - Dorcheus Residence
Total noise level with barrier(s): 54.4 dBA 65.9 dB
Total noise level without barrier(s): 69.5 dBA 75.5 dB
Noise reduction provided by barrier(s): 15.1 dBA 9.7 dB

				Level with and without barrier						
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	54.4	65.9	60	64	53	53	49	42	33	24
w/out barrier	69.5	75.5	67	72	64	66	65	62	56	48

Receiver	X	Y	Z
Residence 8B - Dorcheus Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	150	0	-2	100	0	10	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 8 (Dorcheus Resi
to meet County 5 dB change rule with no reduction of FEL noise and assuming the FEL
is 12' below grade in NW corner of pit 3- Saved in file 159916-pit3FEL-9.env

Number of sources: 1 Temperature: 50
Number or receivers: 1 Humidity: 70
Maximum reduction provided by barrier: 24

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 8 - Dorcheus Residence
Total noise level with barrier(s): 54.2 dBA 63.0 dB
Total noise level without barrier(s): 63.2 dBA 69.4 dB
Noise reduction provided by barrier(s): 9.1 dBA 6.4 dB

			Level with and without barrier							
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	54.2	63.0	56	61	52	53	50	44	34	22
w/out barrier	63.2	69.4	61	66	58	60	59	56	48	40

Receiver	X	Y	Z
Residence 8 - Dorcheus Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	300	0	-2	160	0	7	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 8 (Dorcheus Resi
to meet County 5 dB change rule with no reduction of FEL noise and assuming the FEL
is 12' below grade in SE corner of pit 4- Saved in file 159916-pit3FEL-10.env

Number of sources: 1□ Temperature: 50□
Number or receivers: 1□ Humidity: 70□
Maximum reduction provided by barrier: 24□

		Reference Levels									
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100□	73.3□	79.1□	71□	76□	68□	70□	69□	66□	61□	53□

Receiver 1: Residence 8 - Dorcheus Residence

Total noise level with barrier(s):	54.3□dBA	64.9□dB
Total noise level without barrier(s):	66.9□dBA	73.0□dB
Noise reduction provided by barrier(s):	12.6□dBA	8.1□ dB

		Level with and without barrier								
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	54.3□	64.9□	59□	63□	53□	53□	49□	43□	33□	22□
w/out barrier	66.9□	73.0□	65□	70□	62□	64□	63□	59□	53□	45□

Receiver	X	Y	Z
Residence 8 - Dorcheus Residence	0□	0□	5□

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	200□	0□	-2□	120□	0□	9□	0□

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 8D (Crawford Re to meet County 5 dB change rule with no reduction of FEL noise and assuming the FEL is 12' below grade in NE corner of pit 4- Saved in file 159916-pit3FEL-11.env

Number of sources: 1
Number or receivers: 1
Maximum reduction provided by barrier: 24
Temperature: 50
Humidity: 70

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 8D - Crawford Residence
Total noise level with barrier(s): 54.0 dBA 62.9 dB
Total noise level without barrier(s): 63.2 dBA 69.4 dB
Noise reduction provided by barrier(s): 9.2 dBA 6.5 dB

			Level with and without barrier							
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	54.0	62.9	56	61	52	52	49	43	33	22
w/out barrier	63.2	69.4	61	66	58	60	59	56	48	40

Receiver	X	Y	Z
Residence 8D - Crawford Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	300	0	-2	260	0	3	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 8D (Crawford Re
to meet County 5 dB change rule with no reduction of FEL noise and assuming the FEL
is 12' below grade in NE corner of pit 4- Saved in file 159916-pit3FEL-12.env

Number of sources: 1 Temperature: 50
Number or receivers: 1 Humidity: 70
Maximum reduction provided by barrier: 24

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 8D - Crawford Residence
Total noise level with barrier(s): 53.6 dBA 62.8 dB
Total noise level without barrier(s): 63.2 dBA 69.4 dB
Noise reduction provided by barrier(s): 9.6 dBA 6.7 dB

			Level with and without barrier							
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	53.6	62.8	56	60	52	52	49	43	33	21
w/out barrier	63.2	69.4	61	66	58	60	59	56	48	40

Receiver	X	Y	Z
Residence 8D - Crawford Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	300	0	-2	210	0	6	0

Date: 7/27/00 Project Number: 159916
Project Name: Daybreak Mining Site - Amended Mining Plan N Engineer:y KGS
Comments: Prediction to determine barrier height required around Phase 3 pit for Residence 9 (Hanger Reside
to meet County 5 dB change rule with no reduction of FEL noise and assuming the FEL
is 12' below grade in NE corner of pit 4- Saved in file 159916-pit3FEL-13.env

Number of sources: 1 Temperature: 50
Number or receivers: 1 Humidity: 70
Maximum reduction provided by barrier: 24

				Reference Levels						
Source	Ref Dist	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL	100	73.3	79.1	71	76	68	70	69	66	61	53

Receiver 1: Residence 9 - Hanger Residence
Total noise level with barrier(s): 53.7 dBA 61.3 dB
Total noise level without barrier(s): 60.6 dBA 66.9 dB
Noise reduction provided by barrier(s): 6.9 dBA 5.6 dB

			Level with and without barrier							
Source	dBA	dB	63	125	250	500	1k	2k	4k	8k
Komatsu WA 500 FEL w/ barrier	53.7	61.3	54	59	50	52	50	44	34	23
w/out barrier	60.6	66.9	59	64	56	58	57	53	45	36

Receiver	X	Y	Z
Residence 9 - Hanger Residence	0	0	5

	Source Coordinates			Barrier Coordinates			Trees
Source Name	X	Y	Z	X	Y	Z	ft
Komatsu WA 500 FEL	400	0	-2	220	0	5	0